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TECHNICAL TRANSLATIONS

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TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
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TECHNICAL TRANSLATIONS

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*Descriptors marked with an asterik are included in the subject index.

BIBLIOGRAPHY

Library of Congress, Washington, D. C.
MONTHLY INDEX OF RUSSIAN ACCESSIONS.
July 62, 325p.
Order from GPO $12.00/year

This index is a record of the publications in languages spoken in the Soviet Union currently received by the Library of Congress and a group of cooperating libraries. It consists of three parts: Part A lists monographic literature published after 1944, with the title in the original language preceded by its English translation; Part B lists periodicals published after 1946; Part C constitutes a subject guide to both the monographs and periodical articles listed in Parts A and B.

AGRICULTURE

CONSERVATION OF NATURAL RESOURCES AND THE ESTABLISHMENT OF RESERVES IN THE USSR (Okhrana Prirody i Zapovednoe delo v SSSR) tr. by G. Grause and R. Finesilver. 1962, 108p. 103 refs. PL-480 Int.
Order from OTS $1.00 61-31054

Trans. of Akademiya Nauk SSSR. Komissiya po Okhrane Prirody. Byulleten', 1960, no. 4 [136p.].

DESCRIPTORS: *Trees, *Plants, *Forestry, *Pest control, Regeneration, Climatic factors, Fur, *Animals, *Ungulates, Distribution, Geese, *National parks, Economics, Recreation, Poland, Yugoslavia,

Contents:
Some representatives of the relict flora of the Georgian SSR and their conservation. by V. Z. Gulisashvili
The Multiplication of forest pests due to man's afforestation activities, by A. I. Vorontsov
On the problems of conservation and regeneration of the Pamir forests, by O. E. Agakhanyants
Linden forests in western Siberia and their protection, by I. V. Zykov
The water chestnut, by L. V. Denisova
Acclimatization of fur-bearing animals in connection with problems of preservation and enrichment of the USSR fauna, by L. V. Shaposhnikov
The restoration of the aurochs in the USSR and elsewhere, by M. A. Zablotskii
On the distribution and protection of the bar-headed goose in Tien Shan, by L. S. Stepanyan
On certain problems of scientific research work in reserves and its connection with the tasks of developing the national economy, by N. E. Kabanov
On the necessity of establishing reserve plots in order to conserve the natural resources of Russia, by G. A. Kozhevnikov
International Symposium on Problems of the Conservation of Nature, held in the German Democratic Republic, by G. P. Dement'ev and L. K. Shaposhnikov
The importance of conserving nature for the leisure of the working classes, by G. Grimm
Conservation of nature in the German Democratic Republic, by H. Bohnstedt
Conservation of nature in Poland, by V. Gëtel
Conservation of nature in Yugoslavia, by P. Fukarek
On the propagation of the concepts of nature conservation by the Soviet press, by L. K. Shaposhnikov and N. A. Chefranova
Obituary on Vsevolod Borisovich Dubinin.

Bekhbudov, A. K.
SOME PROBLEMS CONCERNING THE DETERMINATION OF A DRAINAGE MODULE AND OF INTERDRAIN DISTANCES IN RECLAMATION AREAS WITH SALINE SOILS AND SUBSOILS (Nekotorye Voprosy Opredeleniya Modulya Drenazhnogo Stoka i Mezhdrennykh Rasstoyanii v Rayonakh Osvoeniya Zasolennykh Zemel') tr. by V. A. Solodukhin. [1962] [19]p. (foreign text included) 6 refs. [CSIRO] Trans. no. 5794.
Order from OTS or SLA $1.60 62-25637

Trans. of Akad[emiya] Nauk Azerb[aidzhanskoi] SSR [Baku]. Iz[vestiya]. S[e]r[iya] Biol[ogicheskikh] i Med[itsinskikh] Nauk, 1960, no. 4, p. 105-112.

DESCRIPTORS: *Drainage, *Soils, Salinity, Hydrology, Irrigation systems, Water supplies, *Agriculture, Production.

On saline lands the drainage module must be considered as the basic factor determining the magnitude of the drainage. The value of the module must be calculated on the basis of a study and an analysis of the natural conditions prevailing in the district that is being reclaimed. Considering the conditions prevailing in the Kura-Arax lowlands, the basic period of time for

determining the water balance and the drainage module deriving from it must be taken as corresponding to the duration of the soil-flushing operations when the process of replenishment of the ground-water supplies is at its height. Under unfavourable natural and economic conditions, if during the soil-flushing period the flow of water intended for diversion through the network of collectors and drains proves to be very abundant, the length of drain per unit of area must be increased. In such cases the optimum value for the inter-drain distance must be determined according to economic considerations, the use of shallow drainage in the spaces between the drains being also taken into account as a possibility. This, to a considerable extent, accelerates the diversion and evacuation of ground-water and lessens the building cost of the network of collectors and drains. (Author)

Korotkikh, A. V., Solov'ev, S. I. and Gridnikov, V. D.
MALIGNANT FOOT-AND-MOUTH DISEASE OF CATTLE (O Zlokachestvennom Yashchure Krupnogo Rogatogo Skota). 14 Dec 61, 6p. Trans. V-1755.
Order from OTS or SLA $1.10 62-23302

Trans. of Veterinariya (USSR) 1961, v. 38, no. 8, p. 23-24.

DESCRIPTORS: *Foot-and-mouth-disease, *Cattle, Immunization, Epidemiology.

Cases are described where a typical benign foot-and-mouth virus which had been passaged through susceptible animals provoked the malignant form in animals which had previously recovered from the benign form.

Mundel, E. M.
ÜBER DIE ERHÖHUNG DER LEISTUNGSFÄHIGKEIT DER SCHLEPPER. (Raising the Efficiency of Tractors). 7p. (text in German).
Order from T. I. B. $1.55

Trans of Traktory i Sel'khozmashiny (USSR), 1961, [v. 31] no. 5, p. 1.

DESCRIPTORS: *Tractors.

Steshenko, A. P.
IMPROVEMENT OF DESERT PASTURES ON THE PAMIRS (Uluchshenie Pustynnykh Pastbishch na Pamire). [Jan 62] 12p. 8 refs. PL-480 Agr.
Order from OTS $0.50 60-51045

Trans. of Akademiya Nauk Tadzhikskoi SSR, Stalinabad Institut Botaniki. Nauchno-Populyarnaya Biblioteka, 1954, no. 28.

DESCRIPTORS: *Deserts, Grasses, *Food, *Cattle, Climatic factors, *Irrigation systems, *Plants

Plant Cultivation

A METHOD FOR THE PREPARATION OF SPICE TO BE ADDED TO TOBACCO. [1962].
Order from K-H $7.50 K-H 11276

Trans. of [published] Japanese patent 1955-7199.

DESCRIPTORS: *Spices, Additives, *Tobacco, Manufacturing methods.

PROCEDURE FOR THE CONTINUOUS TREATMENT OF TOBACCO. [1962].
Order from K-H $6.25 K-H 11572

Trans. of German patent 1082541 [pub. 1960].

DESCRIPTORS: *Tobacco, *Processing, Aging.

Berurkii, L. P.
DIE EXPERIMENTELLE ERFORSCHUNG DER ZERSTÖRUNG VON ERDKLUMPEN. (Experimental Research of the Destruction of Earth-lumps). 8p. (text in German).
Order from T. I. B. $1.55

Trans. of Traktory i Sel'khozmashiny (USSR) 1961 [v. 31] no. 11, p. 24.

DESCRIPTORS: *Agriculture, *Soils.

Biryulina, P. G.
THE APPEARANCE OF FOREST PESTS (Poyavlenie Vreditelei Lesa) tr. by J. Hardy. 5 July 62 3p. [CSIRO] Trans. no. 5695.
Order from OTS or SLA $1.10 62-32235

Trans. of Priroda (USSR) 1961, v. 50, no. 5, p. 126.

DESCRIPTORS: *Forestry, *Pest control, Trees, Growth, Atmosphere, Temperature, Diurnal variations, Climatic factors.

Bolsunov, I.
METHODS FOR SELECTIVE BREEDING OF TOBACCOS WITH VERY LOW AND HIGH NICOTINE CONTENT. [1962] 25p.
Order from K-H $31.25 K-H 3207a

Trans. of Congres d'Industrie Agricole (no. 10) Madrid, 1954. [Proceedings] p. 1-23.

DESCRIPTORS: *Tobacco, *Nicotine, Growth,

Bonazzi, Augusto.
STUDIES ON THE PHYSIOLOGY OF TOBACCO. VII. TOPOGRAPHY OF SOLUBLE ASHES. [1962] 5p.
Order from K-H $6.25 K-H 3180-a

Trans. of Univ[ersidad] Central [Caracas]. Fac[ultad de] Agr[onomia]. Rev[ista] (Venezuela) 1954, v. 1, p. 219-222.

DESCRIPTORS: *Tobacco, *Plants, *Physiology.

Chesnokov, P. G.
METHODS OF INVESTIGATING PLANT RESISTANCE TO PESTS, tr. by Sh. Shoshan and S. Nemchonok. 1962, 107p. 82 refs. PL-480 Agr.
Order from OTS $1.00 60-51052

Trans. of mono. Metody Issledovaniya Ustoichivosti Rastenii k Vreditelyam, Moscow/Leningrad, 1953 [132p.].

DESCRIPTORS: *Plants, Resistance, Arthropods, *Mites, *Insects, *Pest control, Test methods, Ecology.

The principles proposed by I. V. Michurin and his school serve as a basis for the development of techniques useful in the selection of crop plants possessing resistance to both mandibulate and haustellate phytophagous arthropods. Of particular concern is the role of pest distribution from both a macro- and microecological aspect, and the importance of selecting plant varieties showing the greatest pest resistance or immunity during all phases of their life cycles. Attention is given to field, greenhouse, and laboratory methods; including such things as the design and distribution of test plots, the maintenance of insect "nurseries", sampling techniques, the numerical treatment of data, and the evaluation of experimental results. Emphasis is placed on the standardization of procedures so that comparable data may be had from all investigations of this sort. Summaries are included of many of the findings of the author and of other workers in this field of agrobiology.

Gericke, S. and Kurmies, B.
FLOURINE CONTENT AND FLUORINE ABSORPTION OF CULTIVATED PLANTS. [1962] 22p.
Order from K-H $27.50 K-H 3424 a

Trans. of article from an unidentified source, n. d.

DESCRIPTORS: *Plants, *Fluorine, Absorption.

Gudkov, A. N.
THEORETISCHE GRUNDLAGEN DER SCHNELLBEARBEITUNG VON SOLONEZBÖDEN. (Theoretical Foundations for the Quick Treatment of Solonez-soils) 8p. (text in German).
Order from T. I. B. $1.55

Trans. of Vestnik Sel'skokhozyaistvennoi Nauki (USSR) 1960 [v. 5] no. 1, p. 85.

DESCRIPTORS: *Soils.

Il'in, G. S.
SYNTHESIS OF NICOTINE-C^{14} IN TOBACCO SPROUTS. [1962] 6p.
Order from K-H $7.50 K-H 5484-a

Trans. of #Biokhimiya (USSR) 1956, v. 21, no. 1, p. 108-110.
Another trans. is available from SLA as R-3778.

DESCRIPTORS: Synthesis, *Nicotine, *Tobacco.

Ivanova, E. N.
AN ATTEMPT AT A GENERAL SOIL CLASSIFICATION (Opyt Obshchei Klassifikatsii Pochv). 1962, 29p. 53 refs. PL-480 Agr.
Order from OTS $0.50 61-11495

Trans. of Pochvovedenie (USSR) 1956, no. 6, p. 82-102.

DESCRIPTORS: *Soils, *Classification.

Jogoda, Ikuhisa, Kobata, Jiro and others.
AGING OF THE JAPANESE BRIGHT YELLOW TOBACCO. Pt. 4 of Studies on the Redrying and Aging of Tobacco Leaves. [1962] 25p.
Order from K-H $31.25 K-H 5919 a

Trans. of article from an unidentified source, n. d.

DESCRIPTORS: Plants, *Tobacco, *Aging, Dehydration, Japan.

Kholodnyi, N. G.
SOIL ATMOSPHERE AS A SOURCE OF ORGANIC PLANT NUTRIENTS (Vozdyshnoe Pitanie Kornei) tr. by J. Hardy. [1962] [10]p. (foreign text included) 2 refs. [CSIRO] Trans. no. 5822.
Order from OTS or SLA $1.10 62-25634

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1951, v 76, no. 1, p. 141-144.

DESCRIPTORS: *Soils, Gases, *Organic compounds, *Nutrition, Physiology, *Plants, Growth, Microorganisms, Adsorption.

A series of experiments were carried out over a period of two years to find out if the soil atmosphere contain organic substances suitable for feeding the roots and, if so, the influence they have on the activity of this organ in higher plants. When the atmosphere in the soil contains nutrient organic materials, the bacteria in the rhizosphere apparently behave as "allies" of the root cells in their struggle for existence in the absence of such substances, on the other hand, the role of these microorganisms changes correspondingly. Not receiving any nutrients from the air, they begin to behave extremely aggressively towards the exhausted cells of the root and soon succeed in destroying them. Adsorption seems to play an essential role in the absorption and assimilation of the insoluble organic substances in the soil gases by the bacteria in the rhizosphere and by the plant roots. The drier the soil, the more marked this phenomenon becomes.

Consequently around the living parts of the root system that there must be a concentration of volatile organic material adsorbed from the atmosphere. This helps to create favourable conditions here for the growth of microorganisms which feed on such substances, and indirectly for the nourishment of the root system itself from the atmosphere.

Maklakova, G. F.
VIABILITY OF SPORES OF PLASMODIOPHORA BRASSICAE (O Zhiznesposobnosti Spor Kily).
24 May 62, 3p. Trans. A-1351.
Order from OTS or SLA $1.10 62-25037

Trans. of Zashchita Rastenii ot Vreditelei i Boleznei (USSR) 1961, v. 6, no. 11, p. 54-55.

DESCRIPTORS: Diseases, *Plants, *Molds, *Spores, Soils, Moisture, Viability.

Mashkovtsev, M. F., Tasapkova, N. A., and Moiseeva, M. E.
DESTRUCTION OF NICOTINE BY THE TISSUES OF THE TOBACCO PLANT DURING THE AUTOLYSIS AND HUNGER METABOLISM. [1962] 10p.
Order from K-H $12.50 K-H 3390-d

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 98 [no. 3] p. 491-494.

DESCRIPTORS: *Nicotine, Decomposition, *Tissues (Biology), *Tobacco, *Metabolism, Hunger.

Matsuyama, A. and Ishitoya, Kenzo.
STUDIES ON THE CHEMICAL CONSTITUENTS OF THE "CHERRY RED" TOBACCO PLANT. [1962] 12p.
Order from K-H $15.00 K-H-11092-b

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1960, v. 34, no. 8, p. 662-665.

DESCRIPTORS: *Plants, *Tobacco, Chemical properties.

Medvedev, P. M.
VERSUCHE MIT EINJAHRIGEN UND MEHRJAHRIGEN FUTTERPFLANZEN AUS VERSCHIEDENEN TEILEN DER UdSSR IM MURMANSKER GEBIET. (Experiments with one Year and Several Years old Fodder-plants of Different Parts of the USSR in the Murmansk District). 6p. (text in German).
Order from T. I. B. $1.55

Trans. from Glavnyi Botanicheskii Sad, Pushinskoe. Byulleten' (USSR) 1960, v. 36.

DESCRIPTORS: Agriculture, Plants, *Food, *USSR.

Mothes, K.
ON THE AGING OF LEAVES AND THE POSSIBILITY OF THEIR REJUVENATION. [1962] 47p.
Order from K-H $49.35 K-H 11558-b

Trans. of die Naturwissenschaften (West Germany) 1960, v. 47, p. 337-351.

DESCRIPTORS: Plants, *Aging.

Müller, Rudolf.
THE INFLUENCE OF CIRCULATING AIR AT ROOM TEMPERATURE ON THE ESSENTIAL OILS IN CUT AND LEAF TOBACCO UNDER CONSIDERATION OF THE DEGREE OF QUALITY, COMMUNICATION 1, [1962].
Order from K-H $3.00 K-H 10969-d

Trans. of Inst[itut für] Tabakforsch[ung]. Ber[ichte] (East Germany) 1960, v. 7, no. 2, p. 198-215.

DESCRIPTORS: *Tobacco, *Oils, Air, Temperature.

Nio, Seigi and Sasaki, Toshiro.
INFLUENCE OF HIGH-FREQUENCY WAVES ON CHEMICAL COMPONENTS IN TOBACCO. [1962] 11p.
Order from K-H $13.75 K-H 3280-a

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1952, v. 26, p. 490-493.

DESCRIPTORS: *High frequency, *Tobacco, Plants.

Noguchi, M., Kokago, Takako, and Tamaki, E.
ISOLATION OF SHIKIMIC AND QUINIC ACIDS FROM THE TOBACCO LEAF. [1962] 7p.
Order from K-H $8.75 K-H 11560-b

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1961, v. 35, no. 9, p. 868-870.

DESCRIPTORS: *Tobacco, *Organic acids, *Shikimic acid, Quinic acid.

Peredel'skii, A. A., Shain, S. S., Karavyanskii, N. S. and others.
AUSBREITUNG VON RADIOISOTOPEN IM BODEN DURCH REGENWURMER (LUMBRICIDAE). (Spreading of Radio Isotopes by Earthworms in Soils). 7p. (text in German).
Order from T.I.B. $1.55

Trans. of Akademiya Nauk SSSR. Doklady 1960, v. 135, p. 185-188.

DESCRIPTORS:*Radioactive isotopes, *Soils.

Pfeffer, A.
THE MECHANICAL ACTION OF WIND ON THE TREE. [1962] 17p. 24 refs.
Order from SLA $1.60 62-14075

Trans. of [Ceske Vysoke Uceni Technicke]. Fak[ulta] Lesnicke. Sbor[nik] Ved[eckych] Praci (Czechoslovakia) 1958, v. 1, p. 109-121.

DESCRIPTORS: *Tress, *Wind, Pressure, Resistance *Forestry, Quality control, Evapotranspiration, Plants, Growth.

Static calculations confirm the knowledge gained by experience on the damaging effect of wind pressure on trees. The higher the flexing limits of a type of timber, the more resistent is the tree to the effect of wind. A thicker and shorter tree is more resistent than a thin and tall tree. Those with a narrow and tall crown resist the wind better than those with a wide and short crown. The choice of types during afforestation, the freeing of more resistent trees during clearing and selection help to produce favorable conditions on the edges of the plantation. The quality of timber and its solid strength are improved this way. By suitable selection, at least on the edges of a forest, one can improve the vertical screen, namely by choosing trees,with suitable width and height of crown. The choice of suitable clearing and distance between trees, timber recovery and clearing, re-planting, etc. is also of great importance in the self-protection of a forest against the effect of wind, namely, so as not to expose a straight screen of vegetation to it. The establishment of mixed growth of trees (mainly of unequal age) is another way to reduce the damage caused by the action of wind.

Platek, Jerzy.
SAND AND CONSTITUTIONAL SILICA IN SOME NATIVE RAW TOBACCOS AND TOBACCO PRODUCTS. pt. 1 of Studies of Native Tobacco. [1962] 19p.
Order from K-H $18.75 K-H-11095-h

Trans. of Rocz[niki] Nauk Roln[iczych]. [Seria] A: [Roslinna] (Poland) 1960, v. 81, no. 4, p. 1097-1107.

DESCRIPTORS: *Tobacco, *Silicon compounds, Dioxides, Sand.

Pyriki, Constantin.
RELATIONS BETWEEN MATERIAL COMPOSITION AND "STRENGTH" OF TOBACCO PRODUCTS. [1962] 22p.
Order from K-H $27.50 K-H 6146-e

Trans. of Institut für Tabakforschung. Berichte (East Germany) 1955, v. 2, no. 2, p. 127-141.

DESCRIPTORS: *Tobacco, Processing.

Seehofer, F. and Lorenz, H. W.
CURING CHAMBER WITH AIR CIRCULATION. [1962] 6p.
Order from K-H $7.50 K-H 11033-c

Trans. of Beiträge zur Tabakforschung [sic] 1961, no. 2, p. 35-38.

DESCRIPTORS: *Tobacco, *Aging, Air.

Tamayo, Antonio Izquierdo, Alvarez, Alejandro Medeiros, and Galan, Rodrigo Cota.
BACTERIA IN THE FERMENTATION OF TOBACCO. [1962]
Order from K-H $10.00 K-H 10822

Trans. of mono. International Scientific Tobacco Congress (no. 2) Brussels, 8-15 June 58. [Proceedings] p. 682-690.

DESCRIPTORS: *Bacteria, *Tobacco, *Fermentation.

Tseladze, V. S. and Matinyan, A. B.
DIE BEHANDLUNG VON SAMEN MIT MILROELEMENTEN VOR DER AUSSAAT. (The Treatment of Seeds with Micro-elements before Sowing). (text in German).
Order from T. I. B. $1.40

Trans. from Glavnyi Botanicheskii Sad, Pushinskoe. Byulleten' (USSR) 1960, v. 36.

DESCRIPTORS: *Seeds.

Vasil'ev, M. E.
ATRAZINE AND SIMAZINE - EFFECTIVE MEANS OF WEED CONTROL ON MAIZE PLANTINGS (Atrazin i Simazin - Effektivnye Sredstva Bor'by s Sornyakami v Posevakh Kukuruzy). 1 Mar 62, 9p. Trans. A-1326.
Order from OTS or SLA $1.10 62-23565

Trans. of Zemledelie (USSR) 1961, v. 23, no. 4, p. 65-67.

DESCRIPTORS: *Herbicides, Corn, Grasses, Plants

ASTRONOMY

Astrophysics

Benediktov, E. A., Getmantsev, G. G., and Ginsburg, V. L.
RADIOASTRONOMICAL INVESTIGATIONS WITH ARTIFICIAL SATELLITES AND COSMIC ROCKETS, tr. by B. W. Kuvshinoff. 14 Mar 62, 31p. 39 refs. APL/JHU TG 230-T278.
Order from OTS $1.00 62-11651

Trans. of Iskusstvennye Sputniki Zemli (USSR) 1961, v. 7, p. 3-22.

DESCRIPTORS: *Radio astronomy, Measurement, Sun, Stars, Moon, *Radio waves, *Cosmic rays, *Satellite vehicles, Rockets, High frequency, Electric currents, *Van Allen radiation belt.

Consideration is given to (1) measurements in the high-frequency range, (2) measurement of sporadic radio emission from the sun and from Jupiter, (3) cosmic radio emission and radio emission of discrete sources, and (4) radio emission in the radiation belts of the earth and the planets.

Fyalko, E. I.
RADAR METHODS FOR OBSERVING METEORS. 9 Aug 62 [92]p. 271 refs. USASIA Trans. Log no. 1363.
Order from OTS or SLA $8.60 62-32504

Trans. of mono. [Radiolokatsionnye Metody Nablyudeniya Meteorov] Moscow, 1961 [111p.].

DESCRIPTORS: *Meteors, Radiowaves, Scattering, Ionization, Radio astronomy, Geophysics, Wind, Upper atmosphere, Radio communication systems, Ionosphere, *Radar analysis, Meteorological data, *Meteorological radar, Radar.

This book presents a systematized exposition of basic information on radar methods for observing and studying meteors. It is based on material published in non-Soviet and Soviet literature. The book is divided into five chapters dealing with questions of meteor radioastronomy, certain problems of radiophysics and geophysics, and radio-engineering problems connected with radar methods for observing meteors. The book is designed for radio-engineers, radiophysicists, astronomers and geophysicists as well as for students of the corresponding specialties and radioamateurs. (Author)

Nikol'skii, A. P.
THE PLANETARY DISTRIBUTION OF MAGNETIC IONOSPHERIC DISTURBANCES. 6 Apr 62 [28]p. 17 refs. FTD-TT-61-307; AD-275 723.
Order from OTS or SLA $2.60 62-25666

Unedited rough draft trans. of Arkticheskii i Antarkticheskii Nauchno-Issledovatel'skii Institut. Trudy (USSR) 1960, v. 223, p. 5-20.

DESCRIPTORS: *Ionospheric disturbances, *Magnetic fields, Solar energy, Radiation effects, Aurorae, Theory.

A study of the literature suggests that the mechanism of the appearance of magnetic-ionospheric disturbances and polar aurorae is identical for the entire earth. The differences in the occurrences of these phenomena at different latitudes and longitudes depend on changes in the number of protons and electrons that penetrate per unit area into the upper layers of the earth's atmosphere and also on where (in which hemisphere) the observer happens to be. The results indicate that the use of the ideas and theory of Birkeland and Stormer and their further development will be of significant help in solving these problems.

Polonskii, V. V.
DETERMINATION OF THE STRENGTH AND POLARITY OF SUNSPOT MAGNETIC FIELDS BY MEANS OF AN ATTACHMENT WITH THE FABRY-PEROT ETALON, tr. by P. A. Kazakov. [1962] 4p. 6 refs. [CSIRO Trans. no.] 5758.
Order from OTS or SLA $1.10 62-24629

Trans. of Solnechnye Dannye (USSR) 1959, no. 10, p. 78-80.

DESCRIPTORS: *Sunspots, *Magnetic fields, Intensity, Polarization, Measurement, Interferometers.

Saakyan, G. S.
HYPERON STARS. 29 Jan 62 [21]p. FTD-TT-61-314; AD-271 816.
Order from OTS or SLA $2.60 62-19285

Unedited rough draft trans. of Priroda (USSR) 1960 [v. 49] no. 11, p. 14-21.

DESCRIPTORS: Interstellar matter, Thermonuclear reactions, Hydrogen, *Stars, *Hyperons, Nuclei, *Atomic structure, *Astrophysics.

The theory of hyperon stars is explained in nontechnical language.

Shafer, Yu. G., ed.
VARIATIONS OF COSMIC RAY INTENSITY. Aug 61, 128p. 188 refs. NASA Technical Trans. F-67; AD-260 755.
Order from OTS $2.75 61-31576

Trans. of [Akademiya Nauk SSSR. Yakutskii Filial, Yakutsk. Trudy: Seriya Fizicheskaya] 1960, v. 3,

DESCRIPTORS: *Cosmic rays, *Radiation counters, *Meteorology, Ionosphere, *Atmospheric sounding, Interstellar matter, Theory, Intensity, Mathematical analysis, Magnetic storms.

Contents:
Investigation of variations in primary cosmic radiation using artificial earth satellite, by Yu. G. Shafer and A. V. Yarygin
Investigations of variations in cosmic ray intensity in stratosphere, by V. A. Belomestnykh and others
Apparatus for recording time dependence of frequency of extensive atmospheric showers with Geiger-Muller counter detectors, by D. D. Krasil'nikov
Counter telescope for measuring hard component of cosmic rays underground, by A. A. Danilov and others
Some counter telescope calculations; Illumination of vertical telescope, by S. V. Makarov
Plotting an idealized volt-ampere characteristic for a two-terminal network containing a point-contact transistor with allowance for the temperature effect, by B. S. Shalamov
Calculation of temperature effect of cosmic rays from isobar surface heights, by L. I. Dorman
Meteorological effects of cosmic rays at depths of less than 100 m w.e. underground, by A. I. Kuz'min and A. A. Danilov

Barometric effects of extensive atmospheric showers, by D. D. Krasil'nikov
Barometric effect of cosmic rays, by Ya. L. Blokh and others
Effect of air mass fronts on cosmic ray intensity and role played by lower layers of stratosphere, by N. P. Chirkov and Yu. G. Shafer
Annual variations in cosmic ray intensity and temperature corrections, by E. S. Glokova
Effect of small chromospheric flares on intensity of hard component in cosmic rays, by N. S. Kaminer
Basic features of solar-diurnal variations in cosmic rays, by A. I. Kuz'min
Twenty seven-day variations in cosmic ray intensity, by A. I. Kuz'min and others
Some results of comparing neutron and hard component variations during the period, Aug-Oct 57, by G. I. Freidman and G. V. Shafer
Reduced intensity of cosmic rays during magnetic storms, by A. I. Kuz'min and G. V. Skripin
On the problem of existence of sidereal-diurnal variations in meson intensity of cosmic rays, by T. M. Berdichevskaya and N. A. Zhukovskaya
Energy spectrum and duration of increase in cosmic ray intensity on earth due to corpuscular stream shock wave, by L. I. Dorman
Earth zones struck by solar particles (1-10 Bev) by N. S. Kaminer
Determining primary variation in energy spectrum in region of very low energies from differences of effects in Europe and America, by L. I. Dorman
Determining point at which earth enters corpuscular stream, nature of earth's motion within stream and stream velocity by means of detailed study of variation in cosmic ray intensity during magnetic storms, by L. I. Dorman
Layout of apparatus recording cosmic rays at physics laboratory of Yakutsk branch of Siberian Division of USSR Academy of Sciences.

BEHAVIORAL SCIENCES

Personnel and Training

ACTIVITIES OF THE POLISH ACADEMY OF SCIENCES. 13 Mar 62 [38]p. JPRS: 12946.
Order from OTS or SLA $3.60 62-23393

Trans. of Nauka Polska, 1961, v. 9, no. 1(33) p. 249-276.

DESCRIPTORS: *Scientific personnel, Scientific organizations, Scientific research, Poland.

Contents:
Habilitation procedures at the Polish Academy of Sciences, by Anastazja Strus
New members of the Polish Academy of Sciences
On awards, study tours and Academy news, by Ludmila Szeworska.

BIOGRAPHIES OF SOVIET SCIENTISTS. 14 Aug 62 [79]p. 233 refs. JPRS: 14831.
Order from OTS or SLA $7.60 62-32437

Trans. of 14 selected biographical articles from various Soviet sources.

DESCRIPTORS: *Scientific personnel, Physiology, Medicine, Physical chemistry, Public health, Pharmacology, Ophthalmology, Antibiotics, Soils, Plants, Agriculture.

Contents:
E. B. Bab'syi, N. N. Blokhin, K. V. Chmutov, N. P. Fedotov, N. A. Izmailov, G. A. Mednikyan, G. A. Ponomarev, V. N. Prebrazhenskii, A. I. Rakov, I. G. Savchenko, V. Ya. Shlapoberskii, M. A. Vinokurov, V. Ya. Yur'ev, G. D. Zalesskii.

USSR SUPREME SOVIET AWARDS TO OUTSTANDING TEACHERS. 27 June 62 [392]p. JPRS: 14290.
Order from OTS or SLA $21.00 62-25528

Trans. of Verkhovnyi Sovet. Vedomosti (USSR) 1961 [v. 24] no. 39(1074) p. 920-1075.

DESCRIPTORS: *Instructors, *Education, Personnel.

Maksimov, V. V.
ENERGY CONSUMPTION IN BOARDING-SCHOOL UNDERGRADUATES AT PIONEER CAMPS (Energeticheskie Zatraty u Uchashchikhsya Shkoly-Internata v Pionerskikh Lageryakh). 13 Sep 61 [9]p. 5 refs. JPRS: 10071.
Order from OTS or SLA $1.10 61-28299

Trans. of Gigiena i Sanitariya (USSR) [1961, v. 26] no. 5, p. 33-37.

DESCRIPTORS: *Students, *Exercise, *Diet, *Energy, Consumption, Growth, Food, Nutrition.

The caloric value of food rations for students 13 to 15 years of age should range between 3300 and 3600 calories. (Author)

Spitzer, H.
CLASSIFICATION BY OCCUPATIONS OF THE ENGINEERS EMPLOYED BY IRON AND STEEL WORKS. Aug 62.
Order from BISI £ 6 10s BISI-2852

Trans. of Stahl und Eisen (West Germany) 1962, v. 82 [no. 7] p. 420-428.

DESCRIPTORS: Personnel, *Engineering personnel, Classification, *Iron industry, *Steel industry.

Psychology

Gellershtein, S. G.
PROBLEMS OF LABOR PSYCHOLOGY. [1962] 44p. 50 refs. [NIH] no. 161.
Order from OTS or SLA $4.60 62-23515

Trans. of Voprosy Psikhologii (USSR) 1957, v. 3, no. 4, p. 8-24.

DESCRIPTORS: *Labor, Psychology, *Industrial psychology, Applied psychology, *Employee relations.

Luriya, A. R. and Vinogradova, O. S.
AN OBJECTIVE INVESTIGATION OF THE DYNAMICS OF SEMANTIC SYSTEMS. [1961] 20p 15 refs.
Order from OTS or SLA $1.60 62-13784

Trans. of an article from an unidentified Russian source, n.p., n.d.

DESCRIPTORS: *Speech, *Reaction (Psychology), Dynamics, *Plethysmography, Psychology, Language, Transfer of training, Adjustment (Psychology), *Mental deficiency, Motor reactions, Blood vessels, *Blood volume, Perception.

Photoplethysmographs of the vascular changes in the size of the blood vessels of the head and one finger of the left hand in responses to key words were used to identify the dominant links of semantic systems and to determine how the correlation of these links changes with alteration of the normal reaction. Neutral key words were pronounced every 20 to 180 seconds, followed by words of similar sound and words connected in meaning to the key word. In a semantic system, the key word stands as the center with a signalling meaning and evokes a motor and an orienting vascular reaction. This "nucleus" is surrounded by a system of potential sense-link words which evoke orienting reactions but no motor response. In normal subjects neutral words, and words of similar sound but unrelated in meaning, do not provoke any motor or vascular reactions. In mentally retarded children, the sound resemblance of words occupies the leading position in evoking responses. Semantic systems are not of a clear conscious nature. In adults, the presence of semantic systems formed in past experience are automatic. They are not perceived at every given moment but form the background of the thought process. These systems are peculiar to the individual.

BIOLOGICAL SCIENCES

THE PHYSICOCHEMICAL TREATMENT OF BIOLOGICAL PHENOMENA. 2 Aug 62 [79]p. 70 refs. JPRS: 14710.
Order from OTS or SLA $7.60 62-32211

Trans. of #Zhurnal Fizicheskoi Khimii (USSR) 1962, v. 36, no. 1, p. 3-52.
##Another trans. of p. 3-14 is available from OTS or SLA $1.60 as 62-23788, JPRS-13286, 2 Apr 62 [20]p.

DESCRIPTORS: *Biophysics, *Biochemistry, Biology, *Thermodynamics, *Protoplasm *Genetics, *Cancer, Catalysts, Pathology, Cells (Biology), Cybernetics.

Contents:
##Thermodynamics of irreversible processes and problems of biogenesis, by L. A. Nikolaev
On the thermodynamics of protoplasm, by V. K. Semenchenko
Thermodynamic factors in the kinetics of the autocatalytic multiplication of simple and complex prototypes, by N. I. Kobozev.
Thermodynamic factors in the kinetics of the autocatalytic multiplication of simple and complex prototypes. II. Thermodynamic conditions of normal and anomalous multiplication and growth, by N. I. Kobozev.
Critical phenomena in open systems, by V. M. Andreev.

Buznikov, G. A.
CHOLINESTERASE IN EMBRYOGENESIS OF NUDIBRANCH MOLLUSCA. [1961] [6]p. 14 refs.
Order from OTS or SLA $1.10 62-19004

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 132, no. 3, p. 723-725.

DESCRIPTORS: *Cholinesterase, *Nervous system, *Embryos, Acetylcholines, *Mollusca, *Gastropods.

Makarov, V. V.
CRUSTACEA, VOL. X, NO. 3, ANOMURA (Rakoobraznye) tr. by F. D. Por. 1962, 283p. PL-480 Smi.
Order from OTS $3.00 60-21822

Trans. of Fauna SSSR. [Novaya Seriya] [1938] v. 16 [337p.].

DESCRIPTORS: *Crustacea, Aquatic animals, Marine biology, Shellfish, *Classification

This volume deals with one of the large taxonomic divisions of the Decapoda, viz., the Anomura, the hermit crabs. In the introduction, a short anatomomorphological outline and also very succinct data are given on the biology and zoogeography of the Anomura. Owing to its specific character, the data on the family Paguridae are preceded by a special introduction, in which its anatomy is examined in greater detail, while in the general introduction, the external morphology and some general problems (ecology, economic importance, phylogeny) of the group are especially stressed. In the zoogeographical outline of the Paguridae the localities of the fauna studied in this volume are listed for some species, the types of which are preserved in the Zoological Institute of the Academy of Sciences of the USSR, the limit on the western shores of North America extends somewhat south of Kodiak Island, as far as Sitka. (Author)

Myuge, S. G.
THE TROPHIC CHARACTERISTICS OF THE GALL NEMATODE (K Troficheskoi Kharakteristike Gallovoi Nematody) tr. by D. R. Eddy. [1962] [8]p. (foreign text included) 6 refs. [CSIRO] Trans. 5679.
Order from OTS or SLA $1.10 62-23718

Trans. of Zhurnal Obshchei Biologii (USSR) 1956, v. 17, no. 5, p. 396-399.

DESCRIPTORS: *Parasitic infections, *Nematodes, *Meloidogyne, *Plants, Growth, Tissues (Biology).

Plants harboring the gall nematode, Meloidogyna incognata, react to the infection by increasing respiration and by activating respiratory enzymes in the regions of gall formation. The nematode liberates a proteolytic enzyme into the gall and feeds on the products of protein hydrolysis produced thereby. Gall formation is caused by toxic substances produced as a result of the action of the nematode on the plant tissues. These toxins may include certain amino acids.

Studitskii, A. N.
PROBLEMS OF EVOLUTIONARY MORPHOLOGY OF THE CELL IN THE LIGHT OF DATA FROM ELECTRON MICROSCOPY. 3 Aug 62 [45]p. 70 refs. JPRS: 14719.
Order from OTS or SLA $4.60 62-32204

Trans. of Arkhiv Anatomii, Gistologii i Embriologii, (USSR) 1962, v. 42, no. 3, p. 3-29.

DESCRIPTORS: Genetics, *Morphology, *Cells (Biology), *Electron microscopy, Viruses, Bacteria.

The present article is an attempt to substantiate a new ribosome hypothesis of the cell origin with the help of data yielded by electron microscopy of cell and other forms of structural organization of living matter. There was revealed an essential structural and functional similarity between ribosomes composing bacterial bodies and main components of the cell: nucleolus, chromosomes karyoplasm, and cytoplasm. The author considers the ribosome as a model of primordial organization of the living substance, as a homologue of the virus particle. By uniting the primordial particles the (viroid) organization of the living matter transforms into a (bacterioid) one. The next stage in the evolutionary complicating to the organic matter is the transition from the (bacterioid) to cellular organization which represents a complex of bacterioid bodies. Nucleolus, chromosomes, mitochondria, elements of the endoplasmatic reticulum and Golgi apparatus, are homologues to the bacterioid forms of organization of the living matter in cell. The further evolution of the structural organization of the living matter consists in uniting the cells into a multicellular organisms. (Author)

Tarusov, V. N.
MIGRATION OF ENERGY. 21 Feb 62 [15]p. 50 refs. JPRS: 12602.
Order from OTS or SLA $1.60 62-19799

Trans. of mono. Osnovy Biofizikii i Biofizicheskoi Khimii (Fundamentals of Biophysics and Biophysical Chemistry) Moscow, 1960, pt. I, p. 26-39.

DESCRIPTORS: *Energy, Electrons, Motion, Crystals, *Biophysics, Proteins, Excitation, Luminescence.

Anatomy and Physiology

ELECTRIC ACTIVITY AND PHYSICAL EXERCISE. 11 Apr 62 [52]p. 50 refs. JPRS: 13422.
Order from OTS or SLA $5.60 62-23813

Trans. of Problemy Vrachebnogo Kontrolya (USSR) 1960, v. 5, p. 301-316 and 332-343.

DESCRIPTORS: *Bioelectronics, *Exercise, *Brain, Electrical currents, *Muscles, Physical fitness, Kymography, Electroencephalography.

Contents:
Changes in electric activity of the brain during various kinds of physical exercises, by L. Il'ina and E. V. Kukolovskaya
Biological currents of muscles in young athletes during repeated strength, speed, and endurance exercises, by D. P. Bukreeva.

THEORY AND PRACTICE OF PHYSICAL CULTURE, 1962 [VOL. 25] NO. 5: [SELECTED ARTICLES]. 10 Aug 62 [40]p. JPRS: 14791.
Order from OTS or SLA $3.60 62-32369

Trans. of Teoriya i Praktika Fizicheskoi Kul'tury (USSR) 1962 [v. 25] no. 5, p. 69-79.

DESCRIPTORS: *Physical fitness, Conferences, *Training, Recreation, Exercise, Children, Industrial medicine.

Contents:
The Plenum of the Central Council of the Union of Athletic Societies and Organizations of the USSR (no. 7)
Along the path of our recommendations
The concluding session of the Central Scienfific Research Institute of Physical Culture, by A. G. Ivanin
Scientific Conference of the Azerbaidzhan State Institute of Physical Culture (no. 17) by Sh. A. Ordukhanov
Industrial gymnastics in the enterprise of the Ukraine, by N. V. Khazanovich
The Republic Scientific Methodological Conference on the Physical Training of Children and Adolescents (no. 1) Feb. 62, by G. E. Bal'ko.

Galegov, G. A. and Parfanovich, M. I.
EXAMINATION OF REACTIONS OF TRANSAMINATION IN THE BRAIN OF RATS INFECTED WITH FIXATED RABIES VIRUS (Issledovanie Reaktsii Pereaminirovaniya v Golovnom Mozgu Krys Zarazhennykh Fiksirovannym Virusom Beshenstva). [1962] [5]p. [2 figs. omitted] 5 refs.
Order from OTS or SLA $1.10 62-14722

Trans. of #Byull]eten'] Eksp[erimental'noi] Biol[ogii i] Med[itsiny] (USSR) 1959 [v. 47] no. 2, p. 60-62.

DESCRIPTORS: *Brain, Enzymes, *Transaminases, *Amino acids, Aspartic acid, Glutamic acid, Viruses, *Rabies, Rats.

A decreased concentration of glutamico-asparaginic acid by 15% and of glutamicoalininic acid by 21.8% (in comparison with their quantities in the brain homogenates of healthy animals) was found in the brains of rats infected by a fixated virus of rabies.

Glants, R. M.
THE EFFECT OF ISOHEMOTRANSFUSION ON THE METABOLISM OF ADRENERGIC SUBSTANCES IN THE BRAIN AND EFFECTOR ORGANS. [1962] [8]p. 15 refs.
Order from OTS or SLA $1.10 62-14713

Trans. of #Byull[eten'] Eksp[erimental'noi] Biol[ogii i] Med[itsiny] (USSR) 1960, v. 49, no. 2, p. 77-80.

DESCRIPTORS: *Blood transfusions, Hemoglobin, *Epinephrine, *Brain, *Muscles, *Spleen, Metabolic products.

The rabbits received freshly preserved rabbit blood transfusions: 3 to 5 ml per kg of body weight. 30 min, 24 hr and 72 hr following isohemotransfusion the animals were decapitated and the adrenalin-like substances were investigated in the brain, m. triceps brachii and the spleen according to the method of V. O. Osinskaia (This method permits the determination of noradrenalin, adrenalin, and the compounds possessing the properties of the oxydation products of adrenalin-like substances and non-adrenalin fluorescence.) Experimental and control animals were killed on the same day. The results indicated that isohemotransfusion is accompanied by a pronounced and prolonged increase of noradrenalin in the brain. Even 72 hr after transfusion the noradrenalin content in the brain was higher than in the control animals. The content of adrenalin-like substances 30 min and 24 hr after isohemotransfusion was also greater. The changes accompanied by isohemotransfusion in the metabolism of the m. triceps brachii were similar to those in the brain, however the changes in the content of adrenalin-like substances were more pronounced. The changes caused by isohemotransfusion in the spleen also indicate an increase in noradrenalin and adrenalin-like substances.

Grigor'eva, T. A.
THE INNERVATION OF BLOOD VESSELS. Oct 62, approx. 320p.
Order from PP approx. $10.00

Trans. of unidentified Russian mono., n.p., n.d.

DESCRIPTORS: *Blood vessels, *Nerves, Morphology, Neuromuscular transmission, *Circulatory system.

Grinshtein, A. M.
DYNAMIC LOCALIZATION OF FUNCTION IN EXPERIMENTAL AND CLINICAL STUDY (Problema Dinamicheskoi Lokalizatsii Funktsii v Eksperimente i Klinike). [1962] 38p. 46 refs. [NIH] no. 156.
Order from OTS or SLA $3.60 62-23536

Trans. of Zh[urnal] Nevropat[ologii] i Psikhiatr[ii] (USSR) 1956, v. 56, no. 12, p. 949-962.

DESCRIPTORS: *Physiology, *Neurology, Neuromuscular transmission, Anatomy, Brain, *Nervous system.

Gurovskii, N. and Gerd, M.
THE STATE OF WEIGHTLESSNESS. 30 Apr 62 [7]p. JPRS: 13619.
Order from OTS or SLA $1.10 62-24379

Trans. from Komsomol'skaya Znamya (USSR) 1962 [no. 21] p. 1 and [no. 22] p. 4.

DESCRIPTORS: *Weightlessness, *Space flight, Space medicine, Ear, Sensory perception.

General conclusions about the effect of weightlessness (or rather its lack of effect) on the human body are drawn from the flights of the space dogs and from the flights of Gagarin and Titov. When Titov's body became weightless he temporarily lost his orientation in space and felt that he was flying upside down. The orientation was quickly reestablished when he looked around his cabin. Cessation of signals from the vestibular apparatus was compensated for by means of vision and muscle sensation.

Jouan, P.
QUANTITATIVE STUDY OF THE PITUITARY SECRETION OF CORTICOTROPIC HORMONE (ACTH) BY IN VITRO STIMULATION OF CORTICOIDOGENESIS (Sur l'Étude Quantitative de la Sécrétion Hypophysaire d'Hormone Corticotrope (ACTH) par Stimulation de l a Corticoldogénèse in Vitro). [1962] 5p. 7 refs.
Order from SLA $1.10 62-16012

Trans. of Soc[iété de] Biol[ogie et de ses Filiales. Comptes Rendus des Seances] (France) 1961, v. 155, no. 1, p. 18-21.

DESCRIPTORS: Pituitary hormones, *ACTH, *Corticosteroids, Biosynthesis, *Pituitary gland, *Adrenal glands, Stimulation.
The action of ACTH, liberated by the rat hypophsis incubated in Krebs-Ringer fluid, on the rat adrenal cortex incubated in the same medium has been studied. It causes a marked increase of all the liberated corticosteroids except 11-dehydrocorticosterone. The facts observed allow us to suggest a biological quantitative determination of the ACTH content of the rat

hypophysis based on the action of its extracts, prepared under carefully standardized conditions, on adrenocortical secretion in vitro. (Author)

Kehl, R., Czyra, J. C., and Becache, A.
SOME FORMS OF EXPERIMENTAL PRODUCTION OF MILK SECRETION IN RABBITS (Sur Quelques Modalités du Declenchement Expérimental de la Sécrétion Lactée chez la Lapine) tr. by M. B. L. Mar 62, 5p. 3 refs.
Order from SLA $1.10 62-14997

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1961, v. 155, no. 4, p. 807-810.

DESCRIPTORS: *Mammary glands, *Milk, Secretion, Rabbits, Hormones, Drugs, *Serotonin, *Reserpine.

Makarchenko, O. F.
CREATIVE PROGRESS OF PHYSIOLOGICAL SCIENCE. [1962] 30p. [NIH] no. 150.
Order from OTS or SLA $2.60 62-23534

Trans. of Akademiya Nauk SSSR. Vestnik, 1957, v. 28, no. 8, p. 3-16.

DESCRIPTORS: *Physiology, History.

Neuweiler, W. and Richter, R. H. H.
FEMALE STERILITY. [1962] 7p.
Order from K-H $8.75 K-H 11909

Trans. of mono. (lecture) from General Meeting of the German Society for Study of Fertility and Sterility, Munich, 15-16 Oct 60.

DESCRIPTORS: *Women, Reproductive system, *Fertility.

Ol'nyanskaya, R. P. and Trubitsyna, G. A.
CONDITIONED REFLEX CHANGES IN RESPIRATORY GAS EXCHANGE AND THE BIOELECTRICAL ACTIVITY OF THE BRAIN AND SKELETAL MUSCLES. 23 Jan 62 [9]p. 9 refs. JPRS: 12090.
Order from OTS or SLA $1.10 62-15458

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 138, no. 5, p. 1245-1247.

DESCRIPTORS: *Conditioned reflex, *Respiration, Gases, *Bioelectronics, Brain, *Cerebral cortex, Stimulation, *Muscles, Sound, Reaction (Psychology) *Metabolism

The electrical changes in skeletal muscles and the brain during muscular stress and conditioned reflex response were studied at the same time that the conditioned reflex variations in gas exchange were measured. For these changes recordings were made by a multi-chanelled oscillographic device with a partial filter for the separation of alpha-rhythms from the electroencephalograph (EEG). The unconditioned stimuli consisted of squeezing a rubber bulb, lifting of weights and dumbbells. The conditioning stimulus was a metronome sound. Recordings were made (1) during rest, (2) in a period of isolated activity of the conditioned reflex, (3) during performance of muscular stress, and (4) following completion of the work. After 3 to 6 periods of muscular stress accompanied by the meterotome sound, this conditioning stimulus induced in a majority of the subjects, and increase in gas exchange and a simultaneous depression of the alpha-rhythm of the EEG. As the reinforcement of the conditioned reflexes progressed, the recordings approximated the response prior to the conditioning. The depression of the alpha rhythm of the EEG disappeared. The change in the gas exchange was reduced. These findings indicate that a conditioned reflex increase in metabolism is associated with a variation in the exchange process in the brain.

Peltonen, Thomas.
SMOKING OF SERVICEMEN. [1962] 9p.
Order from K-H $11.25 K-H 11128a

Trans. of unidentified mono. from the Office of Cardiodiagnosis of the University of Turku and from the Military Hospital No. 2, n.d.

DESCRIPTORS: *Smokes, *Cigarettes, Tobacco, *Military personnel.

Uflyand, Yu. M.
MUSCULAR ANTAGONISM IN THE LIGHT OF THE PAVLOVIAN THEORY. [1962] 37p. 23 refs. [NIH] no. 153.
Order from OTS or SLA $3.60 62-23533

Trans. of Sanit[arno]-Gig[ienicheskii] Med[itsinskii] Inst[itut]. Tr[udy] (USSR) 1956, v. 29, p. 9-25.

DESCRIPTORS: Motor reactions, *Muscles, Conditioned reflex, Nervous system, Analyzers (Psychology), Nerves, *Neuromuscular transmission, *Brain, *Cerebral cortex,

Verne, J., Marois, M. and others.
SU 4885, PREGNANCY AND THE ADRENAL CORTEX IN FEMALE RATS (SU 4885, Gestation et Cortex Surrenal chez la Ratte). [1962] 4p. 9 refs.
Order from SLA $1.10 62-14989

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1960, v. 154 [no. 7] p. 1359-1361.

DESCRIPTORS: *Pregnancy, Ovary, *Adrenal glands, Lipids, Cholesterol, Drugs, Rats.

In contrast to amphenone, SU 4885 cannot maintain pregnancy in ovariectomized pregnant rats. From the histological and histochemical point of view, the difference is found again in the adrenal cortex which contains lipids in uneven distribution and in which the cholesterol reaction is completely negative. (Author)

Vladimirova, E. A.
AN INVESTIGATION OF CHANGES IN THE FREE AMMONIAC LEVEL IN THE BRAIN DURING DIFFERENTIAL INHIBITION AND UNDER CERTAIN CONDITIONS OF THE NEUROTIC STATE IN RATS.
[1962] [12]p. 15 refs.
Order from OTS or SLA $1.60 62-14693

Trans. of #Fiziologicheskii Zhurnal SSSR, 1960, v. 46, no. 11, p. 1373-1379.

DESCRIPTORS: *Neurology, *Brain, Cerebral cortex, Conditioned reflex, Inhibition, *Ammonia, Rats.

Rats were automatically submerged in liquid oxygen to fix the chemical state of their brains immediately after they were subjected to various conditioning situations. The previous method and apparatus (Voprosy Med. Khim. 2: 229-233, 1956; available in translation from LC or SLA as 59-17428) were used. Analysis of the free ammonia content of the cerebral hemispheres, following experimentally created conflict, revealed rises of as much as 57% over the normal ammoniac level. Application of conflicting stimuli during the initial stages of an induced neurosis resulted in no increase in the ammonia content. A rise in the ammoniac level is indicative of cortical inhibition and may be correlated with the electric activity of the cerebral tissue. (See also 62-14747, 62-14748)

Biochemistry

ACTA BIOCHIMICA POLONICA, 1961, VOL. 8, NO. 2, P. 111-273 AND INDEX, VOL. 8. 1962, 1v. PL-480 HEW.
Order from OTS $1.25 60-21560-2

Trans. of Acta Biochimica Polonica, 1961, v. 8, no. 2 and index v. 8.

DESCRIPTORS: *Biochemistry, Radioactive isotopes, *Phospholipids, Tissues (Biology), *Metabolism, *Sulfur, *Enzymes, Synthesis, *Cobalt compounds, *Nucleotides, Proteins, *Insects, Acidosis, *Maleic acid, *Progesterone, *Glutamyl radicals, Proteases, *Glyceraldehydes, *Plasma proteins, Photochemistry, *Nucleosides, *Polymers, *Thiocyanates, Methyl radicals, Glycerols, Cholines, Amines, Serine, Sulfur compounds, Sulfates, Adenosine phosphates, Moths, Phosphates

Contents:
The incorporation of 32p-labelled phosphoric esters of glycerol, choline, ethanolamine, and serine into phospholipids of guinea pigs tissues in vitro, by T. Chojnacki and T. Korzybski
Sulphinic compounds as biological acceptors of bivalent sulphur: formation of alaninethiosulphonic acid and thiotaurine from sulphinic compounds and the outer sulphur atom of thiosulphate, by J. M. Zgliczynski and Teresa Stelmaszynska
Enzymic synthesis of light-sensitive cobalto (II)-corrins, by J. Pawelkiewicz and others
A new procedure of ultrafiltration and its adaptability in studies on binding of nucleotides by proteins, passage of ATP through celophane membranes in presence and absence of protein, by W. Niemierko and others
Biosynthesis of phospholipids in insects. I. The incorporation of ^{32}P-phosphocholine into phospholipids in Celerio Euphorbiae, by T. Chojnacki and Maria J. Piechowska
Biosynthesis of phospholipids in insects. II. Studies on the incorporation of ^{32}P-orthophosphate in Celerio Euphorbiae moths, by T. Chojnacki
Aminoaciduria induced with maleic acid. VIII. The effect of progesterone upon the picture of intoxication with maleic acid in rats on galactose diet, by S. Angielski and others
Colorimetric determination of γ-glutamyl transpeptidase activity in human serum and tissues with synthetic substrates, by M. Orlowski and A. Szewczuk
A new method for the preparation of D-glyceraldehyde-3-phosphate, by A. Szewczuk and others
Isolation of γ-globulins by means of zinc and aluminium salts, by R. Krauze and others
Photochemistry of cytosine nucleosides and nucleotides, II, by K. L. Wierzchowski and D. Shugar
The preparation and properties of high molecular weight polymers of N-methyluridylic acid, by W. Szer and D. Shugar
The role of rhodanase in metabolic formation of thiosulphate, by T. W. Szczepkowski
Model reactions of the mechanism of rhodanase action, by T. W. Szczepkowski.

ACTA BIOCHIMICA POLONICA, 1962, VOL. 9, NO. 1, P. [1]-70. 1962, 1v. PL-480 HEW.
Order from OTS $1.25 62-11051-1

DESCRIPTORS: *Biochemistry, *Eye, Methanols, Biosynthesis, *Glutathione, Blood, Cells (Biology), Synthesis, *Amino acids, Liver, Kidney, Enzymes, *Yeasts, Fermentation, Respiration, Bacteria, *Tyrosine, Transaminases, *Pyrimidine derivatives, Plants, Radioactive isotopes, Carbon.

Contents:
Oxidation of methanol on the organ of vision, by Stanislawa Kos and Z. Szybinski
Biosynthesis of glutathione in human blood cells, by A. Koj
Influence of maleate and n-ethylmaleimide on the synthesis of amino acids from α-ketoglutarate and ammonia in the liver and the kidney of rats, by J. Rogulski and others
Studies on the Lebedew process, by P. Ohlmeyer and others
Endogenous respiration of Mycobacterium Phlei at various temperatures, by Zofia Lassota and others
The tyrosine transamination and tyrosine content in Celerio Euphorbiae, by Krystyna Belzecka and others

The synthesis of pyrimidine derivatives in plant material using [6-^{14}C]orotic acid, by J. Buchowicz and I. Reifer.

ACTA BIOCHIMICA POLONICA, 1962, VOL. 9, NO. 2, P. 71-188. 1962, 1v. PL-480 HEW.
Order from OTS $1.25 62-11051-2

DESCRIPTORS: *Biochemistry, *Metabolism, Culture media, *Tissues (Biology), *Adenosine phosphates, Moths, *Phospholikids, *Transaminases, *Acidosis, *Freeze-drying, Pyrimidine derivatives, *Nucleosides, Labeled substances, Body fats, Alkalosis, Urine, *Saliva, *Amino acids, Proteins, Kinases, *Serum albumin, Electrophoresis.

Contents:

Studies on the crabtree effect. I. Gaseous metabolism of tissue cultures, by Maria Guminska and J. Borysiewicz

AMP and adenosine aminohydrolases in rat tissues, by Jadwiga Purzycka

Biosynthesis of phospholipids in insects. III. The incorporation of [^{32}P] orthophosphate NTO phospholipids of Arctia Caia moths, by T. Chojnacki and T. Korzybski

Transamination in insects. III. The effect of metalions on aspartate: α-ketoglutarate aminotranspherase in Celerio Euphorbiae, by Konstancja Racynska-Bojanowska and Krystyna Belzecka

The adaptation of AMP aminohydrolase in rat kidney to prolonged acidosis, by M. Zydowo and others

Elution of some substances from the tissues fixed by the "freeze-substitution" method, by K. Ostrowski and others

A note on the stability of pyrimidine nucleoside cyclic phosphate methyl esters and the mode of action of ribonuclease, by W. Szer and D. Shugar

^{131}I-labelled fat in the studies on fat assimilation in rats, by Danuta Rozynkowa and S. Magas

The excretion of citrate in male and female rats after prolonged acidosis or alkalosis, by L. Zelewski and others.

Decrease of citrate excretion in the urine of female rats after oestradiol benzoate administration, by L. Zelewski and J. Umiastowski

Undetermined ninhydrin-positive compound in human saliva, by Alicja Grudzinska

Purification and properties of the new hexokinase utilizing inorganic polyphosphate, by M. Szymona

Human serum albumins in starch-gel electrophoresis, by Zofia Szymanowska and others.

ACTA BIOCHIMICA POLONICA, 1962, VOL. 9, NO. 3, P. 189-299. 1962, 1v. PL-480 HEW.
Order from OTS $1.25 62-11051-3

DESCRIPTORS: *Biochemistry, *Erythrocytes, Blood plasma, *Catalase, Bacteria, *Hydrolases, Digestive system, Enzymes, *Adenosine phosphates, *Nucleic acids, *Radiation effects, *Hyaluronidase, Serum amylase, *Neoplasms, Selenium compounds, *Methionine, *Proteins, *Liver, *Deuterons, *Lysozyme, *Ribonuclease, Kidney, *Cells (Biology), *Myosin.

Contents:

Preparation of the erythropoietic factor from human blood plasma, by Zofia Kuratowska and others

Purification and properties of catalase from Mycobacterium Smegmatis, by W. Galasinski and others

Studies on hydrolases of digestive juices. VII. Proteolytic activity of canine intestinal juice, by Z. Szafran and others

Direct transfer of orthophosphate from adenosine triphosphate to myosin and H-meromyosin, by J. Gruda and others

Oxygen and dose-rate effects on survival curves of γ-irradiated transforming DNA in the presence of protective substances, by R. Pakula and others

Histochemical localization of hyaluronidase and amylase by the film-substrate technique, by Halina Szemplinska and others

Studies on the Crabtree effect. II. Factor inhibiting and enhancing the Crabtree effect in human neoplastic HeLa cells, by Maria Guminska

A comparison of chemically and enzymically prepared Se-adenosylselenomethionine, by J. Skupin

Studies on lupin proteins. V. C-Terminal amino acids in conglutin β, by M. Wiewiorowski and J. Augustyniak

Influence of γ-irradiation on liver regeneration in normal and starved rats, by Celina Janion and D. Shugar

Deuteron and γ-irradiation of dried preparations of lysozyme and ribonuclease, by Zofia Tramer and D. Shugar

The cathodic proteins in hog kidney mitochondria, by W. Rzeczycki and others. (See also 62-11051-2)

Baranov, M. N.
THE METABOLISM OF CERTAIN PHOSPHORIC COMPOUNDS IN VARIOUS LAYERS OF THE BRAIN. [1962] [14]p. 6 refs.
Order from OTS or SLA $1.60 62-14731

Trans. of Akademiya Nauk SSSR. [Institut Fiziologii. Trudy] 1959, v. 8, p. 501-508.

DESCRIPTORS: *Metabolism, *Phosphorus compounds, *Brain, Cerebral cortex, Nerves, Cells (Biology).

In all areas of the cerebral cortex and cerebellum of rats a drop was observed in content and in the specific activity of macroergic compounds in proportion to distance from the surface of the brain. The layers of the cerebral cortex and the cortex of the cerebellum which are composed to a great extent of nerve cells structurally, differ from other layers with respect to lower content of phospholipids and greater metabolic speed. Separate areas of the cerebral cortex are similar with respect to content of inorganic phosphrus, phosphocreatine, ATF, phospholipids, and the intensity of including radioactive phosphorus into their structures. In comparison with the cerebral cortex the cortex of the cerebellum is characterized by high content of phosphocreatine as well as by greater intensity of including radioactive phosphorus into the structure of investigated compounds. In the white matter of the brain the level of metabolism of phosphorus compounds is lower than in grey matter, though not very much so.

Bovet-Nitti, F. and others.
A NEW MONOAMINE OXIDASE INHIBITOR: THE N'-(1, 4-BENZODIOXAN-2-METHYL)-N'BENZYL-HYDRAZINE (2596 IS). [1962] 3p. 13 refs.
Order from SLA $1.10 62-18057

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1961, v. 252, 23 Jan, p. 614-[615] (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Enzymes, *Oxidases, Amines, *Metabolism inhibitors, Benzoyl radicals, Dioxides, Methyl radicals, Benzyl radicals, *Hydrazines, Liver, Brain.

In the new category of pharmacological agents, known as monoamine oxidase inhibitors, the authors describe a new derivative, the N, -(1, 4-benzodioxan-2-methyl)-N'-benzylhydrazine (2596 IS) showing great activity with different technics used in several species of animals and also a characteristic antagonism towards reserpine. (Author)

Efremov, V. V.
SOME CONTEMPORARY PROBLEMS OF MEDICAL VITAMINOLOGY (Nekotorye Sovremennye Problemy Meditsinskoi Vitaminologii). [1962] [28]p. NIH no. 185.
Order from OTS or SLA $2.60 62-23516

Trans. of Akad[emiya] Medits[inskikh] Nauk SSSR. Vestnik, 1956, v. 11, no. 2 [p. 45-56].

DESCRIPTORS: *Vitamins, Food, *Nutrition, Therapy, Additives, Physiology, Biochemistry.

Mizuno, T. S., Kainuma, S. and others.
THE CARBOHYDRATES OF THE STEM AND THE ROOTS OF THE TOBACCO PLANT. Pt. 3 of A Study of the Carbohydrates of Tobacco. Feb 61, 16p.
Order from K-H $20.00 K-H-10521-b

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1958, v. 32, no. 6, p. 467-470.

DESCRIPTORS: *Plants, *Tobacco, *Carbohydrates.

Moretti, Jean; Boussier, Genevieve; and Jayle, M. F.
NEW METHOD OF PROTEIN PURIFICATION BY MEANS OF STARCH-GEL ELECTROPHORESIS, (Nouvelle Méthode de Purification des Protéines par Electrophorese dans un Gel d'Amidon). [1962] 8p. (1 fig. omitted).
Order from SLA $1.10 62-18079

Trans. of Soc[iété] d[e] Chim[ie] Biol[ogique]. Bull[etin] (France) 1958, v. 40 [no. 1] p. 59-65.

DESCRIPTORS: *Proteins, *Purification, *Starches, *Gels, *Electrophoresis, Separation.

Oshima, Y. and Nakabayashi, T.
CHEMICAL CHANGES OF POLYPHENOL COMPOUNDS AND AMINO ACIDS IN THE PROCESS OF BLACK TEA FERMENTATION. PT. 1 of Studies on the Black Tea Tannin. [1962] 15p.
Order from K-H $18.75 K-H 3580-a

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1954, v. 28, p. 264-269.

DESCRIPTORS: *Tea, *Tannic acids, *Fermentation, *Phenols, *Amino acids, Polymers.

Oshima, Y., Nakabayashi, T., and Ishibashi, S.
THE FRACTIONATION OF BLACK TEA TANNIN. Pt. 2 of Studies on Black Tea Tannin. [1962] 12p.
Order from K-H $15.00 K-H-3580-b

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1954, v. 28, p. 269-274.

DESCRIPTORS: *Tea, *Tannic acids, Fractionation.

Schrade, W., Böhle, E. and others.
ABOUT THE FATTY ACID CONTENTS OF THE SERUM FAT IN THE HEALTHY, IN THE ARTERIOSCLEROTIC AND IN THE DIABETIC (Gaschromatographische Untersuchungen der Serumfettsaüren des Menschen. I. Mitteilung. Über die Fettsaürenzusammensetzung des Serumfettes beim Gesunden, Arteriosklerotiker und Diabetiker). Rept. 2 on Gas Chromatographic [Investigations] of the Serum Fatty Acids of Humans. [1962] 17p. (figs. tables, refs. omitted).
Order from SLA $1.60 62-18074

Trans. of Klin[ische] Wochen[schrift] (Germany) 1960, v. 38, 1 Feb, p. 126-134.

DESCRIPTORS: *Fatty acids, Body fats, Serum, *Arteriosclerosis, *Diabetes, Blood chemistry, Lipids

The methylesters of all the fatty acids of the serum of 25 normal people, of 26 arteriosclerotic patients with a hyperlipemia, 7 arteriosclerotic patients without a hyperlipemia; 14 diabetics with hyperlipemia and 8 diabetics without hyperlipemia were examined gaschromatographically.

Shabadash A. L.
RIBONUCLEOPROTEIDES OF THE NERVE CELL AS A HISTOCHEMICAL INDEX OF THE FUNCTIONAL STATE OF THE NEURONS. [1962] [17]p. 55 refs.
Order from OTS or SLA $1.60 62-14759

Trans. of mono. [Voprosy Biokhimii Nervnoi Sistemy] (Problems in the Biochemistry of the Nervous System) [ed. by] A. V. Palladin, Kiev, 1957, p. 231-246.

DESCRIPTORS: *Nerves, *Cells (Biology), *Nucleoproteins, Nucleic acids, Cytochemistry, Bioelectronics.

The histochemical method of revealing the sum total of

the nucleoproteides in the nerve cells is based on differences of the isoelectric points of the proteins complexes in concrete structures. Differentiating fermentolysis of the micro preparations controls the nature of the studied nucleo-proteides. The reactivity of the neurons is morphologically apparent in the qualitative and quantitative changes of the nucleoproteides of the mitochondria, the nucleolus, and the tigroid-successively accomplished. The qualitative and quantitative changes occur simultaneously. The mitochondria together with the reticulate apparatus and the nucleolus are working organoids of the first order within the nerve cells. The functional changes of the mitochondria are the most sensitive sympotoms of physiological or pathological states in the elements of the nervous system. The state of rest, the different levels of activity, and the work to the limit of the nerve cell are reflected in a regular change of configuration and physiochemical symptoms of its mitochondria. The morphological characteristic of changes of the mitochondria correlates with the direction and the level of definite enzyme processes, particularly with respiration, the cycle of Krebs, and the oxydizing phosphorylation. The presence of 3 groups of proteins in the nervous system of mammals differing from each other as to their isoelectric points was established by the school of A. V. Palladin. (Author)

Smirnov, A. I. and Pshenova, K. V.
SUBSTRATE SPECIFICITY OF TOBACCO POLYPHENOLOXIDASE. [1962] 9p.
Order from K-H $11.25 K-H 5179-c

Trans. of Biokhimiya (USSR) 1941, v. 6, no. 1, p. 29-36.

DESCRIPTORS: *Tobacco, *Phenols, *Oxidases, Polymers.

Smusin, Ya. S.
INHIBITION OF CHOLINEESTERASE IN THE BRAIN AND MUSCLES OF WHITE MICE DUE TO ACTION OF ISO-MERCAPTOPHOSIS AND ITS METHYLSULFOMETHYLATE. [1962] [7]p. (1 fig. omitted).
Order from SLA $1.10 62-14813

Trans. of mono. (paper) presented at Sechenov Physiological Society (session no. 691) 8 Jan 57.

DESCRIPTORS: Inhibition, *Cholinesterase, *Brain, *Muscles, *Thiols, Methyl radicals, *Sulfonyl radicals, Acetycholines, Nervous system.

Methylsulfomethylate of iso-mercaptophosis increases its toxicity 118 times. In white mice with subcut. administration the fatal dose (DL_{50}) of iso-mercaptophosis was 6.7 mg/kg, and DL_{50} methylsulfomethylate of iso-mercaptophosis was 0.057 mg/kg. Iso-mercaptophosis depresses cholineesterase to approx. the same degree in the muscles and in the brain; with a dose of DI_{50} cholineesterase activity decreases to 14.1--11.6%. In this case the same correlation for cholineesterase activity is maintained in the muscle and in the brain as in the control animals (cholineesterase activity of the brain remains 7 to 9 times higher than in the muscles). With methylsulfomethylate of iso-mercaptophosis the depression of cholineesterase is 3 times greater in the muscles than in the brain. On the effect of DL_{50} methylsulfomethylate of iso-mercaptophosis, cholineesterase activity in the brain decreases only to 61.9%, and in the muscles to 19.8% as compared with cholineesterase activity in non-poisoned control animals. At the same time cholineesterase activity in the muscles decreases almost 24 times below the activity of cholineesterase activity in the brain. Hence methylsulfomethylation of iso-mercaptophosis leads to a weakening of its action on the cholineesterase of the CNS. (Author)

Tabuchi, Takeshi.
DEGRADATION OF NICOTINE (1). Pt. 2 of Microbial Degradation of Nicotine and Nicotinic Acid. [1962] 6p.
Order from K-H $7.50 K-H 9188 b

Trans. of article from an unidentified source, n. d.

DESCRIPTORS: *Nicotine, *Nicotinic acid, *Microorganisms.

Tabuchi, Takeshi.
DEGRADATION OF NICOTINE (2). Pt. 3 of Microbial Degradation of Nicotine and Nicotinic Acid. [1962] 9p.
Order from K-H $11.25 K-H 6145

Trans. of article from an unidentified source, n. d.

DESCRIPTORS: *Nicotine, *Nicotinic acid, *Microorganisms.

See also K-H 9188 b

Truhaut, Rene and Clercq, Monique de.
ON THE METABOLISM OF NICOTINE: ELIMINATION OF ITS DEGRADATION DERIVATIVES IN THE RABBIT AND IN THE RAT. Aug 60, 18p.
Order from K-H $22.50 K-H-10281-j

Trans. of Soc[iété de Chimie Biologique. Bull[etin] (France) 1960, v. 41, 5 Mar, p. 1693-1705.

DESCRIPTORS: *Nicotine, *Metabolism, Excretion, Rabbits, Rats.

Verzhbinskaya, N. A. and Volkova, R. I.
LABILE HIGH-ENERGY PHOSPHATES OF THE BRAIN WITHIN THE VERTEBRATE SERIES. [1962] [6]p. (1 fig. omitted) 11 refs.
Order from OTS or SLA $1.10 62-14686

Trans. of A[kademiya] N[auk] SSSR. D[oklady] 1958, v. 118 [no. 1] p. 135-138.

DESCRIPTORS: *Energy, *Phosphates, Metabolism, Exchange reactions, *Phosphorylation, *Brain, *Adenosine phosphates,

The determination of P of ATP and CrP and the free inorganic phosphate (P of IP) in the brain of vertebrates

was carried out after the chemical fractionation of the trichloracetic extract of the brain removed from animals frozen quickly in liquid oxygen. IP was precipitated according to Delory. ATP was precipitated with a 20% solution of Mercury acetate. The content of CrP was determined by the P in the centrifugate after precipitation of IP and ATP. The content of P in the corresponding fractions was determined according to Fiske and Subbarow. The lability of P bonds of ATP and CrP was determined by the rate of their fermentive disintegration in the brain after its removal from the body of the animal. Tabulated results show that in the course of evolution of vertebrates the content of macroergic phosphates in the brain, and the content of IP decreases. The amount of P of ATP in the brain gradually increases in accordance with evolutionery development of the vertebrates. A sharp increase in the amount of ATP is observed in the brain of warm-blooded animals. This is connected with greater intensity of the oxydizing metabolism in the brain and therefore conditioned by the process of oxydizing phosphorelation.

Zhuravleva, E. I.
PREPARATION OF MOLASSES FOR CITRIC ACID FERMENTATION (Podgotovka Melassy k Limonnokislomu Brozheniyu) tr. by G. Belkov. 1962, 23p. 9 refs. NRCC Technical Trans. 1015.
Order from NRCC $1.50 NRCC C-3960

Trans. of Vsesoyuznyi Nauchno-Issledovatel'skii Institut Konditerskoi Promyshlennosti. Trudy (USSR) 1958, v. 12, p. 20-32.

DESCRIPTORS: Preparation, *Citric acids, *Fermentation, Potassium, Iron, Cyanides, Fungi

Botany

Balkovskii, R. E.
BOTANICAL DICTIONARY IN RUSSIAN-ENGLISH-GERMAN-FRENCH-LATIN, BY N. N. DAVYDOV: BOOK REVIEW (Botanicheskii Slovar' Russko-Angliisko-Nemetsko-Frantsuzsko-Latinskii). 5 Mar 62, 9p. 2 refs. Trans. A-1329.
Order from OTS or SLA $1.10 62-23570

Trans. of Botanicheskii Zhurnal (USSR) 1961, v. 46, no. 7, p. 1055-1057 (review of mono. ed. by F. Kh. Bakhteev, pub. Moscow, 1960, 335p.).

DESCRIPTORS: *Dictionaries, Plants.

Il'in, G. S.
FUNCTION OF TOBACCO ROOT IN SYNTHESIS OF NICOTINE. [1962] 9p.
Order from K-H $11.25 K-H 5044-a

Trans. of Fiziologiya Rastenii (USSR) 1955, v. 2, no. 6, p. 573-577.

DESCRIPTORS: *Tobacco, *Nicotine, Synthesis

Karamysheva, Z. V.
VEGETATION OF THE ROCKY STEPPES OF THE SOUTH-WESTERN PART OF THE CENTRAL-KAZAKHSTAN "MELKOSOPOCHNIK" (PENEPLANE) (Rastitel'nost' Kamenistykh Stepei Iugo-Zapadnoi Chasti Tsentral'no-Kazakhstanskogo Melkosopochnika). [1962] [39]p. (foreign text included) 16 refs. [CSIRO] Trans. no. 5623.
Order from OTS or SLA $3.60 62-32236

Trans. of Botanicheskii Zhurnal (USSR) 1960, v. 45, no. 1, p. 48-63.

DESCRIPTORS: *Ecology, *Plants, *Grasses, Terrain, Climatic factors, Soils, *Geology, *Rock, Geological survey.

An analysis of the regularity of distribution of vegetation in the Ostansov plateau area indicated that the physical and chemical properties of rocks are the basic factors which determine the character of the vegetation. A list of species is presented that may be an indication of the presence of certain varieties of rocks. From this list, and from a description of vegetation, it is apparent that there is no definite relationship between specific types of vegetation, and varieties of definite petrographic composition in the Central Kazakhstan peneplane region. Connections between vegetation and geological structure should be established on the basis of quantitative proportions of the specific varieties, and particularly on the basis of plant communities and their combinations, but not on the presence of individual species.

Maksimov, N. A. and Petinov, N. S.
DETERMINATION OF THE SUCTION FORCE OF LEAVES BY THE COMPENSATION METHOD WITH THE AID OF A REFRACTOMETER (Opredelenie Sosushchei Sily List'ev Metodom Kompensatsii s Pomoshch'yu Refraktometra). [1962] 7p. 13 refs.
Order from OTS or SLA $1.10 62-10906

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 62, no. 4, p. 537-540.

DESCRIPTORS: *Plants, Physiology, Water, *Refractometers, Area suction, Diffusion, Pressure, *Evapotranspiration.

Nagasawa, Masatoshi.
STUDIES OF THE HEMICELLULOSES IN TOBACCO LEAVES, PT. II. [1962] 4p.
Order from K-H $5.00 K-H 6063 c

Trans. of article from an unidentified source, n.d.

DESCRIPTORS: *Tobacco, *Hemicellulose, *Plants.

Medical Specialties and Equipment

HISTORY OF BLOOD TRANSFUSION IN PRE-REVOLUTIONARY RUSSIA AND THE USSR. [1962] 116p.
Order from OTS or SLA $9.60 62-24770

Trans. of mono. (unsigned manuscript) Istoriya Perelivaniya Krovi v Dorevolyutsionnoi Rossii i v SSSR, n. p., n. d.

DESCRIPTORS: *Blood transfusions, History.

Amosov, M. M. and Shkabara, K. O.
THE SOLUTION OF DIAGNOSTIC PROBLEMS BY ELECTRONIC MACHINE. 28 Feb 62 [13]p. JPRS: 12732.
Order from OTS or SLA $1.60 62-23347

Trans. of Avtomatyka (USSR) 1961, no. 1, p. 47-54.

DESCRIPTORS: *Diagnosis, Machines, *Digital computers, Cybernetics, Medical equipment.

Cirman, Zdenek.
ON THE PROBLEMS OF GLASS DUST IN AMPOULES (K Problemu Skelneho Prachu v Ampulkach). [1961] [7]p. (foreign text included) 2 refs.
Order from SLA $1.10 62-10444

Trans. of Obaly (Czechoslovakia) 1957 [v. 3, no. 3] p. 75.

DESCRIPTORS: *Ampuls, *Glass, *Medical equipment, Containers, Drugs.

Glass powder in the quantities which may occur in injection preparations in the practice is not a serious hazard to the health. A considerable part of the glass powder occurs at the cutting of the ampoule before its employment in the pharmaceutical production. Its occurrence can be considerably decreased by employing the so-called perforated ampoule, which has already been tried in other countries, since in the perforated ampoule (in contrast to the presently conventional ampoule) there does not occur a negative pressure, which is equalized at the opening of the ampoule, thereby leading to deposition of the glass powder forming at the cutting of the ampoule. (Author)

Hayne, R. L. and Balthaser, J. F.
THE EVALUATION OF CLINICAL DATA WITH THE IBM 101. [1962] 9p. (16 figs. omitted).
Order from SLA $1.10 62-16228

Trans. of Med[izinische] Dok[umentation] (West Germany) 1960, v. 4, no. 3, p. 61-68.

DESCRIPTORS: *Diagnosis, *Therapy, *Digital computers, Medical equipment, Cybernetics.

Parin, V. V.
ARTIFICIAL KIDNEY: A SURVEY OF FOREIGN PERIODICAL LITERATURE. [1962] 27p. 56 refs. [NIH] no. 300.
Order from OTS or SLA $2.60 62-23535

Trans. of Voprosy Patologii i Serdechno-Sosudistoi Sistemy (USSR) 1955 [v. 4] no. 2, p. 3-13.

DESCRIPTORS: *Artificial kidney, Medical equipment, Literature, History, Medical procedures.

Sochivko, L. F., Bogoyavlenskaya, N. L. and others
A NEW PHOTOSTIMULATOR TYPE EFS-01. 17 Apr 62 [10]p. JPRS: 13497.
Order from OTS or SLA $1.10 62-23984

Trans. of Meditsinskaya Promyshlennost', SSSR, 1962 [v. 16] no. 4, p. 57-59.

DESCRIPTORS: Lighting systems, *Electroencephalography, *Psychology, Conditioned reflex, *Medical equipment.

In the development of the new type EFS-01 photostimulator, the main purpose was to produce an instrument that yields light pulses unaccompanied by noise. For this purpose we used a cathode ray tube with increased brightness as the light source. The operating principle of the instrument consists of gating a tube, which is cut off by a negative voltage on the modulator, by means of positive pulses whose magnitude, duration and frequency determine the corresponding parameters of the light flashes. (Extracted)

Microbiology

SOVIET STUDIES ON THE EFFECT OF ULTRASOUND. 1 Aug 62 [15]p. 25 refs. JPRS: 14675.
Order from OTS or SLA $1.60 62-32197

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 76, no. 1, p. ##133-135; no. 2, p. 317-320.
##Another trans. is available from ATS as RJ-56.

DESCRIPTORS: *Ultrasonic radiation, *Yeasts, *Paramecium, Organic compounds, *Ultraviolet radiation.

Contents:
##The effect of ultrasound on yeasts, by R. S. Katsnel'son and M. A. Khenokh
Reaction of paramecia to certain organic compounds subjected to the effect of ultrasound and ultra-violet light, by L. K. Lozina-Lozinskii and M. A. Khenokh.

Nikolov, Iv., ed.
BACTERIOLOGICAL WEAPONS AND DEFENSE. Pt. 2 of Principles of Medical Defense. 2 Aug 62 [106]p. 13 refs. JPRS: 14705.
Order from OTS or SLA $9.10 62-32206

Trans. of mono. Osnovi na Mediko Sanitarnata Zhashita (Foundations of Medical-Sanitary Defense) Sofia, 1959, p. 319-366.

DESCRIPTORS: *Military medicine, *Biological warfare, National defense, Biological warfare agents

Contents:
Basic information on bacteriological weapons and their use
Means of defense against bacteriological weapons
Basic principles in organizing bacteriological defense of the population
Basic information on certain contagious diseases which might be used in bacteriological warfare
(See also 62-32191)

Ogarkov, V. I. and Makhrov, N. F.
EXPERIMENT IN PROTRACTED PRESERVATION OF BRUCELLA STRAINS IN A DRY STATE (Opyt Dlitel'nogo Sokhraneniya Shtammov Brutsell v Vysushennom Sostoyanii). [1961] 7p. Trans. V-1760.
Order from OTS or SLA $1.10 62-23290

Trans. of Veterinariya (USSR) 1961, v. 38, no. 8, p. 70-71.

DESCRIPTORS: *Bacteria, *Preservation, Age, *Brucella, *Dehydration, Culture media.

Lyophilic drying provided good survivability of museum strains of Brucella (of various types) both during the process of drying, as well as during protracted preservation of dry cultures. During four to ten years of preservation, the dried cultures of Brucella of three types did not lose their initial morphological culture characteristics, agglutinability, typical features and virulence for the experimental animals. The museum cultures of Brucella are preserved in dried preparations in a more stable form than in keeping them up by periodic reseedings on nutrient media.

Rechmenskii, S. S.
THE PROBLEMS OF AIRBORNE INFECTIONS. [1962] [134]p. 50 refs. F-TS-7643-RE; AD-5 738.
Order from OTS or SLA $10.50 62-32153

Trans. of mono. K Probleme Vozdushnykh Infektsii, Moscow, 1951.

DESCRIPTORS: *Infections, *Air, Contamination, *Aerosols, Pathology, *Microorganisms, *Bacterial aerosols, Physiology, *Epidemiology, *Hospitals, Inhibition, Decontamination, Airborne.

Contents:
General information
The nature of aerosol
The pathogenic organisms responsible for airborne infections and the factors responsible for their dissemination
The nature of the "physiological" bacterial aerosol
Methods of studying bacterial aerosols
The aerial method of spreading infections in hospitals
Methods of air disinfection.

Studentsov, K. P.
WAYS OF STUDYING VACCINE PROPHYLAXIS OF BRUCELLOSIS AND OBTAINING VACCINE STRAINS. 4 Apr 62 [12]p. JPRS: 13338.
Order from OTS or SLA $1.60 62-23816

Trans. of Vestnik Sel'skokhozyaistvennoi Nauki (USSR) 1961, [v. 6] no. 12, p. 57-64.

DESCRIPTORS: *Brucellosis vaccine, *Brucella, Growth, Genetics.

Sukhanova, K. M.
THE CYTOPHYSIOLOGICAL CHARACTERISTICS OF THE LIFE CYCLE OF INFUSORIA OF THE GENUS BALANTIDIUM FROM AMPHIBIA (Tsitofiziologicheskaya Kharakteristika Zhiznennykh Tsiklov Infuzorii Roda Balantidium iz Amfibii). Feb 62 [46]p. 59 refs. RTS 1946.
Order from OTS or SLA $4.60 62-25106

Trans. of mono. Voprosy Tsitologii i Prot[ist]ologii [Leningrad] 1960, p. 285-312.

DESCRIPTORS: *Histology, *Physiology, *Ciliata, *Amphibians, Frogs, *Protoza, Parasites, Intestine.

The investigations carried out on B. elongatum Stein, B. duodeni Stein and B. entozoon Ehrenberg showed that these infusoria have an annual life cycle where the alternation of the separate stages is clearly discernible. The life cycles are highly adapted to those of the hosts in the intestinal tract of which they parasitize. The life cycles of all three species of Balantidium are similar in many respects and this is due to a large extent to the presence of similar biological factors in their hosts. In spring and summer and at the beginning of autumn, intense sexual and asexual reproduction takes place among the infusoria. At this period, precystic forms are produced which differ morphologically from the vegetative individuals. At all stages of the life cycle, B. elongatum, B. duodeni and B. entozoon contain reserve food substances: glycogen and neutral fat. DNA and RNA were detected in all three species of Balantidium. DNA is found in large quantities in the macronucleus and micronucleus, and also in the form of granules in the endoplasm of the infusoria in spring, before the onset of the intensive division. The smallest amount of DNA is found in the rudimentary synkaryon of exconjugants. RNA is present in numerous nucleoli of the macronucleus and in the endoplasm.

Titarenko, I. F.
EXPERIMENTAL OBSERVATIONS OF GROUP ASSOCIATED IMMUNIZATION WITH AEROSOLS MADE FROM ANATOXINS (TETANUS AND STAPHYLOCOCCUS) (Eksperimental'nye Nablyudeniya nad Gruppovoi Assotsiirovannoi Immunizatsiei Aerozolyami iz Anatoksinov (Stolbnyachnyi i Stafilokokkovyi)). 9 May 62, 23p. 18 refs. Trans. V-1773.
Order from OTS or SLA $2.60 62-25036

Trans. of Z[hurnal] M[ikrobiologii] E[pidemiologii i] I[mmunobiologii] (USSR) 1962, v. 33, no. 2, p. 8-14.

DESCRIPTORS: Immunization, *Bacterial aerosals, Antitoxins, Staphylococcus, Clostridium tetani, *Inhalation immunization.

The inhalation method of introducing anatoxins insured a profound immunological reconstruction in guinea pigs and rabbits. This was evidenced by the increase in the antitoxin titer during a corresponding immunization with aerosols prepared from one anatoxin or another. The use of highly purified and concentrated anatoxins is necessary to insure effectiveness of inhalation immunization. No reliable differences were found between the animals subjected to associated tetanus-staphylococcus immunization and the animals immunized separately with aerosols prepared from the antigens indicated. A direct relation was noted between the growth of antitoxins and the increase of the dose of one component or another in the associated preparation, and some inhibition of the production of tetanus antibodies when a triple dose of the staphylococcus anatoxin was introduced. Reimmunization with aerosols from tetanus-staphylococcus anatoxins after the original subcutaneous immunization proved very effective. (Author)

Vershilova, P. A.
THE CHARACTERISTICS OF IMMUNOGENESIS FOLLOWING VACCINATION WITH LIVE BRUCELLOSIS VACCINE. [1962] 7p. 1 ref. [NIH] 418.
Order from OTS or SLA $1.10 62-24756

Trans. of Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1954 [v. 25] no. 10, p. 38-44.

DESCRIPTORS: *Immunization, *Brucellosis vaccine, Nervous system, *Phagocytosis, Stimulation, *Drugs.

Zakhariev, Z. A.
RESISTANCE OF FLEXNER AND SONNE DYSENTERY BACTERIA TO ANTIBIOTICS AND SULFATHIAZOL IN VITRO. 26 Feb 62 [7]p. JPRS: 12676.
Order from OTS or SLA $1.10 62-19776

Trans. of Khigiena [Epidemiologiya i Mikrobiologiya] (Bulgaria) 1961 [v. 4] no. 4, p. 31-33.

DESCRIPTORS: Resistance, *Shigella, *Antibiotics, *Sulfonamides, Thiazols.

The dysentery cultures obtained in 1960 in the region of Burgas showed increased resistance to antibiotics and sulfathiazole. The resistance to sulfathiazole and tetracycline was the strongest (43-60% and 24-29% respectively), that to streptomycin--weaker (24-28%) and that to chloramphenicol--the weakest. (14-17%). While the Sonne strains showed approximately the same resistance as the Flexner strains, they appeared to be somewhat more sensitive to sulfathiazole and more resistant to chloramphenicol. No concurrent (crossed) resistance to tetracycline, chloramphenicol and streptomycin together was found.

Neurology and Psychiatry

Gilyarovskii, V. A.
ROLE OF PATHOANATOMICAL RESEARCHES IN THE INVESTIGATION OF THE PROBLEM OF SCHIZOPHRENIA. [1962] 13p. 17 refs. [NIH] no. 155.
Order from OTS or SLA $1.60 62-23511

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1955, v. 55, no. 11, p. 825-830.

DESCRIPTORS: Pathology, Anatomy, *Psychoses, *Brain, *Cells (Biology), Morphology.

Karamyan, A. I.
EVOLUTION OF THE FUNCTION OF THE CEREBELLUM AND CEREBRAL HEMISPHERES, tr. by M. Roublev. 1962, 161p. 404 refs. PL-480 HEW.
Order from OTS $1.75 61-31014

Trans. of mono. Evolutsiya Funktsii Mozzhechka i Bol'shikh Polusharii Golovnogo Mozga, Leningrad, 1956 [186p.].

DESCRIPTORS: Nervous system, *Brain, *Cerebral cortex, Excision, Electroencephalography, *Conditioned reflex, *Animals, Fishes, Amphibians, Reptiles, Birds, Mammals, *Anatomy, Genetics.

An explanation is offered for the phylogenetic losses, replacements, regressions and progressions of various aspects of higher nervous activity in vertebrates in terms of the doctrines of Pavlovian physiology. To this end, conditioned reflexes were elaborated before and after excision of the cerebellum, midbrain, cerebral hemispheres, and accessory organs of representative fishes, amphibians, reptiles, birds, and mammals. Films were made of the course of induced motor disorders, and measurements were made of the nervous electrical activity and of the motor nerve chronaxy. Among the evolutionary trends indicated by these studies are (1) a reduction of temporary connections (in the Pavlovian sense of the term) with an increase in the inhibitory-excitatory interactions; (2) a progressive transfer of conditioned reflex activity, and motor and sensory functions, to the cerebral cortex; (3) an increase in the forms of functional interrelationships between the cerebellum and cerebral cortex; (4) a correlation of the intensity of dystrophic manifestations, caused by the removal of the cerebellum, with the degree of overall higher motor activity and importance of the cerebellum in motor functions; and (5) as manifested with the forebrain or cerebellum removed, the predominance of functional over organic compensation reactions becomes reversed during phylogeny.

Mette, A.
PRESENT STATE OF PSYCHIATRY IN THE GERMAN DEMOCRATIC REPUBLIC. [1962] 33p. 75 refs. [NIH] no. 279.
Order from OTS or SLA $3.60 62-24620

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1957, v. 57, no. 1, p. 104-113.

DESCRIPTORS: *Psychiatry, *East Germany, History

Morozov, V. M.
EXISTENTIAL ANALYSIS IN PSYCHIATRY. [1962] 26p. 11 refs. [NIH] no. 157.
Order from OTS or SLA $2.60 62-23513

Trans. of Zhur[nal]Nevropatol[ogii] i Psikhiatrii (USSR) 1957, v. 57, no. 8, p. 1038-1044.

DESCRIPTORS: *Psychiatry, Analysis, Theory, *Psychotherapy.

Existential analysis is not a method of investigation but metaphysical interpretation.

Morozov, V. M.
PROGRESS IN THE TREATMENT OF MENTAL DISORDERS (Novoe v Terapii Psikhicheskikh Zabolevanii). [1962] [32]p. 45 refs. [NIH] no. 158.
Order from OTS or SLA $3.60 62-23500

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1956, v. 56, no. 7, p. 591-599.

DESCRIPTORS: Therapy, *Mental diseases, *Psychiatry, *Drugs, Chlorpromazine, Reserpine, Serotonin.

Popov, E. A.
THE PROBLEM OF THE PATHOGENESIS OF SCHIZOPHRENIA. [1962] [30]p. 25 refs. [NIH] no. 159.
Order from OTS or SLA $2.60 62-23512

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1957, v. 57, no. 5, p. 545-555.

DESCRIPTORS: *Psychoses, Pathology, Drugs, *Psychotherapy, Theory, Cerebral cortex.

Pathology

A COLLECTION OF THESES ON ACHIEVEMENTS IN MEDICAL SCIENCE IN COMMERATION OF THE TENTH NATIONAL FOUNDATION DAY OF CHINA: [SELECTED ARTICLES]. 1 Aug 62 [84]p. 65 refs. JPRS: 14686.
Order from OTS or SLA $8.10 62-32200

Trans. of mono. Ch'ing Chu Chien Kuo Shih Chou Nien I Hsüeh K'o Hsueh Ch'eng Chiu Lun Wen Chi Hsia Chuan, v. 2, Peiping, Dec 59, p. 251-270.

DESCRIPTORS: Inflammation, Intesting, *Surgery, *Liver, Blood circulation, *Hypertension, *Chinese traditional medicine

Contents:
Acute appendicitis, by Tsung Hsien-chiu
Extensive resection of the liver, by Huang Tsu-ting
Surgical treatment of portal hypertension, by Chiu Satsu

PATHOLOGICAL PHYSIOLOGY AND EXPERIMENTAL THERAPY, 1962, VOL. 6, NO. 2: [SELECTED] ARTICLES. 8 Aug 62 [80]p. 224 refs. JPRS: 14767.
Order from OTS or SLA $7.60 62-32377

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1962, v. 6, no. 2, p. 18-35, 68-69, 76-82.

DESCRIPTORS: Pathology, Physiology, Therapy, Radiation injuries, *Heart, *Cholinesterase, Gamma rays, *Hemopoiesis, Bone marrow, *Acidosis, Inflammation, *Burns, Biochemistry, Cardiac muscle.

Contents:
The condition of the central autonomic regulation of cardiac activity in irradiated animals, by N. P. Smirnova
Cholinesterase activity of the blood serum of dogs subjected to general gamma irradiation, by B. I. Davydov
The dynamics of the restoration of hemopoiesis in irradiated mice following bone marrow transplantation, by I. I. Zaretskii and others
The development of acidosis in a focus of normergic and hypergic inflammation, by G. G. Melkumova
The significance of tissue thermometry during the infliction of burns under experimental conditions, by N. I. Kochetygov
Biochemistry of burn sickness, by T. L. Zaets.

PROTECTION AGAINST SILICOSIS, DECREE NO. 271 OF THE BULGARIAN COUNCIL OF MINISTERS. 9 Mar 62 [11]p. JPRS: 6881.
Order from OTS or SLA $1.60 62-19402

Trans. of Narodno Subranie. Izvestiya (Bulgaria) 1960, v. 11, no. 105, p. 1-3.

DESCRIPTORS: *Silicosis, Inhibition, Control, Bulgaria, Preventive medicine

PUBLIC HEALTH OF KAZAKHSTAN, 1962 [VOL. 22] NO. 3: SELECTED ARTICLES. 10 Aug 62 [23]p. JPRS: 14793.
Order from OTS or SLA $2.60 62-32362

Trans. of Zdravookhranenie Kazakhstana (USSR) 1962 [v. 22] no. 3, p. 67-79.

DESCRIPTORS: *Medicine, *Public health, *Conferences, *Psychiatry, Sanitation, Lead, Poisoning.

Contents:
Visiting session of the Academy of Medical Sciences in Alma-Ata, by G. M. Varshavskii
Ten-day session of chief physicians and conference of medium level medical workers in the psychiatric service of kazakhstan, by M. Kh. Gonopol'skii
Reference Book for Sanitation Physicians, by I. S. Koryakin: review of mono. Action of lead on the Body and therapeutic therapeutic-prophylactic measures, Alma-Ata, 1961, 5p., by G. I. Tarabaeva
Obituary: D. F. Tsimbalist
Obituary: A. M. Zadvornykh.

Arai, Tsuneto and Suehiro, Susumu.
EFFECT OF FUMARIC ACID ON YOSHIDA SARCOMA, REPT. I, tr. by W. Himel. 21 Mar 61, 5p. NIH no. 3-28-61.
Order from OTS or SLA $1.10 62-32361

Trans. of Gann (Japan) 1953, v. 44, p. 361-362.

DESCRIPTORS: Cancer research, Japan, *Sarcoma, *Fumaric acids, Physiology, Nucleic acids, Acids, Metabolism, Neoplasms.

Badmaev, K. N.
PATHOGENESIS OF TRAUMATIC OEDEMA OF THE CEREBRUM: CRITICAL REVIEW OF THE LITERATURE FOR 50 YEARS (K Patogenezu Travmaticheskogo Oteka Golovnogo Mozga: Eriticheskii Obzor Literatury za 50 Let) tr. by B. Haigh. [1962] 22p. 50 refs. NIH no. 209.
Order from OTS or SLA $2.60 62-23510

Trans. of Voprosy Neirokhirurgii (USSR) 1956, v. 20, no. 2, p. 43-48.

DESCRIPTORS: Pathology, *Edema, *Brain, Head injuries, Bibliography.

Bennati, D. and Ghiggino, C. W.
THE ARTERIAL HYPERTENSOR EFFECT CAUSED BY TEMPORARY OCCLUSION OF THE ARTERIES IN THE SPLANCHNIC AREA. [1962] 7p. (7 figs. omitted) 7 refs.
Order from SLA $1.10 62-10712

Trans. of Montevideo [U.],Facultad de Medicina. Anales (Uruguay) 1956, v. 41, p. 53-58.

DESCRIPTORS: *Hypertension, *Arteries, *Constriction, Spleen, Liver, Intestine, Legs, Blood pressure.

A study was made of the hypertensor arterial effect caused by the temporary occlusion of different arteries of the splanchnic area (hepatic, splenic, superior mesenteric and coeliac trunk). While the temporary occlusion of all the above arteries determines invariably and almost instantaneously an increase of arterial pressure, the compression of other arteries with major output (such as the femoral artery) does not result in any significant change in the systemic arterial pressure. The hypertensor arterial effect under discussion appears slightly enhanced after bilateral vagotomy and it is suppressed by the administration of ganglionic blocking substances. Therefore it is considered that the arterial hypertension produced by the transitory clamping of different vascular splanchnic areas is a reflex phenomenon, possibly related to the existence of accessory barosensitive vascular zones localized in these areas. (Author)

Büchner, M.
POSSIBILITIES AND PROBLEMS IN THE CLINICAL-CHEMICAL ANALYSIS OF SERUM PROTEINS. 23 Oct 61 [22]p. JPRS: 10705.
Order from OTS or SLA $2.60 62-19719

Trans. of Zeitschrift für Chemie (East Germany) 1961 [v. 1] no. 5, p. 148-152.

DESCRIPTORS: *Chemical analysis, *Blood proteins, *Electrophoresis, Polorographic analysis, *Diagnosis, Cancer, Diseases.

Chlenov, L. G.
THE PATHOGENESIS, DIAGNOSIS AND TREATMENT OF BRAIN HEMORRHAGES: A SUMMARY OF FOREIGN PERIODICAL LITERATURE (Patogenez, Raspoznavanie i Lechenie Mozgovykh Insul'tov). [1962] 32p. 69 refs. NIH no. 21.
Order from OTS or SLA $3.60 62-23506

Trans. of Voprosy Patologii Serdechno-Sosud[istoi] Sistemy (USSR) 1956, v. 5, no. 1, p. 3-16.

DESCRIPTORS: Pathology, Diagnosis, Therapy, *Brain, *Hemorrhage, Bibliography.

Cuzin, J. L.
THE SPECIFIC ACT OF SMOKING: ANALYSIS OF A FEW PARAMETERS ON A LIMITED GROUP OF SMOKERS. [1962] 17p.
Order from K-H $21.25 K-H 11455-a

Trans. of mono. Internat[ional] Sci[entific] Tob[acco] Cong[ress] (no. 2) Brussels [8-15 June 58. Proceedings] p. 521-535.

DESCRIPTORS: *Tobacco, Cigarettes, Statistics.

Dunaevskii, L. I.
ETIOLOGY OF ADENOMA (HYPERTROPHY) OF THE PROSTATE: REVIEW OF LITERATURE. [1962] 38p. 46 refs. [NIH] no. 298.
Order from OTS or SLA $3.60 62-23502

Trans. of Urologiya (USSR) 1957, v. 22 [no. 3] p. 64-72.

DESCRIPTORS: Etiology, *Tumors, *Prostate, Neoplasms, Hormones, Cancer.

Futer, D. S.
PREVENTION OF POLIOMYELITIS BY MEANS OF PASSIVE AND ACTIVE IMMUNIZATION (Profilaktika Poliomielita Putem Passivnoi i Aktivnoi Immunatsii). [1962] 26p. 66 refs. NIH no. 193.
Order from OTS or SLA $2.60 62-23509

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1956, v. 56, no. 5, p. 361-369.

DESCRIPTORS: *Poliomyelitis, Immunization, *Virus vaccines, Antigens, Antibodies.

Gefter, A. I. and Matusova, A. P.
HUMORAL DISTURBANCES IN MYOCARDIAL INFARCTION. [1962] 29p. 87 refs. [NIH] no. 211.
Order from OTS or SLA $2.60 62-24956

Trans. of Voprosy Patologii Serdechno-Sosudistoi Sistemy (USSR) 1957, v. 6, no. 4, p. 3-13.

DESCRIPTORS: Pathology, Blood, Lymph, Bodyfluids, Serum, *Blood circulation, *Heart, Thrombosis, *Cardiac muscle.

The present review is devoted to an analysis of the humoral disturbances in myocardial infarction and the evaluation of their practical significance according to the data in the foreign (i. e., non-Soviet) literature. (Author)

Giotti, G.
INTERACTION BETWEEN NICOTINE AND SYMPATHOMIMETIC AMINES AT THE CARDIAC LEVEL IN VITRO. [1962] 4p.
Order from K-H $5.00 K-H 5968-a

Trans. of Arch[ivio] Ital[iano di] Sc[ienze] Farm[acologiche] 1956, ser. 3, v. 6, p. 254-256.

DESCRIPTORS: Chemical reactions, *Nicotine, Stimulatjon, *Amines, *Heart.

Gleich, Jaroslav.
THE INFLUENCE OF SMOKING, COFFEE, AND ALCOHOL ON THE ACTIVITIES OF THE FETUS IN PREGNANT WOMEN. [1962] 22p.
Order from K-H $27.50 K-H 3457

Trans. of Casopis Lekaru Ceskych (Czechoslovakia) 1954, v. 93, no. 36/37, p. 1007-1012.

DESCRIPTORS: *Cigarettes, Smokes, *Tobacco, *Coffee, *Alcohols, Embryos, *Pregnancy.

Gsell, O.
CLINICAL STUDIES ON THE ETIOLOGY OF BRONCHIAL CARCINOMA. [1962] 22p.
Order from K-H $27.50 K-H 5299-a

Trans. of Deutsche Medizinische Wochenschrift (West Germany) 1956, v. 81, 6 Apr, p. 495-501.

DESCRIPTORS: *Cancer, *Respiratory system, Etiology.

Guerin, M. and Cuzin, J. L.
CUTANEOUS CANCERIZATION OF THE MOUSE BY MEANS OF THE TAR OF CIGARETTE SMOKE (NEW RESEARCH). [1962] 24p.
Order from K-H $30.00 K-H 9061-a

Trans. of Assoc[iation] Franc[aise pour l']Étude [du] Cancer. Bull[etin] 1958, v. 45, p. 400-416.

DESCRIPTORS: *Skin, *Cancer, *Cigarettes, Smokes, Toxicity.

Heilmann, P.
INJURIES FROM TOBACCO SMOKING. [1962] 13p.
Order from K-H $16.25 K-H 3138-b

Trans. of Deut[sche] Ges[undheits]wesen (East Germany) 1953, v. 8, no. 22, p. 654-657.

DESCRIPTORS: *Injuries, *Tobacco, *Smokes, Cigarettes.

Hirayama, T. and Hamano, Y.
THE SIGNIFICANCE OF THE SMOKING FACTOR IN THE EPIDEMIOLOGY OF CANCER OF THE LUNG. [1962] 6p.
Order from K-H $7.50 K-H 4006-b

Trans. of [Gann] (Japan) 1955, v. 46, no. 2/3, p. 418-419.

DESCRIPTORS: Smokes, *Tobacco, *Cancer, *Lungs, *Cigarettes, Epidemiology.

Keiser, George.
STATISTICAL INVESTIGATIONS ON THE INFLUENCE OF SMOKING ON ANGINA PECTORIS. [1962] 41p.
Order from K-H $51.25 K-H 3225-e

Trans. of Cardiologia (Switzerland) 1954, v. 24, p. 285-310.

DESCRIPTORS: *Smokes, *Cigarettes, *Tobacco, Statistical analysis, *Angina pectoris.

Kholdin, S. A.
MALIGNANT NEOPLASMS OF THE THYROID GLAND (Zlokachestvennye Novoobrazovaniya Shchitovidnoi Zhelezy) tr. by B. Haigh. [1961] 25p. [NIH] no. 121.
Order from OTS or SLA $2.60 62-15113

Trans. of Sovremennye Problemy Onkologii (USSR) 1955, v. 7 [no. 4] p. 3-13.

DESCRIPTORS: *Cancer, *Thyroid gland, Therapy, Surgery, Radioactive isotopes, Iodine.

Radioactive iodine is at present the only method of therapy which is of value in inoperable cancer of the thyroid gland, mainly as a result of metastases in internal organs and bones. The most promising method remains early removal of the swelling in the thyroid gland, especially if solitary, and its obligatory histological examination. The most successful results follow radical removal of the whole of the affected lobe with the isthmus and the regional lymphatic nodes in the neck together with the sterno-cleido-mastoid muscle and the internal jugular vein. (Author)

Kloppe, Wolfgang.
VIEWS ON TOBACCO AND ITS DANGERS. [1962] 48p.
Order from K-H $60.00 K-H 3390-c

Trans. of Ärztliche Wochenschrift (Germany) 1954, v. 9, no. 43/44, p. 1013-1016 and 1039-1041.

DESCRIPTORS: *Tobacco, Smokes, Cigarettes, *Toxicity.

Kolesnikov, I. S. and Sheinis, V. N.
INFORMATION ON TREATMENT OF BURNS: MATERIAL FROM FOREIGN SOURCES. [1962] 13p. [NIH] no. 187.
Order from OTS or SLA $1.60 62-23546

Trans. of Voenno-Meditsinskii Zhurnal (USSR) 1956, no. 2, p. 11-23.

DESCRIPTORS: *Burns. *Therapy

Korteweg, R.
STATISTICAL DATA CONCERNING CANCER OF THE LUNG AND WHAT CAN BE LEARNED FROM IT IN OUR BATTLE AGAINST THIS DISEASE. [1962] 44p.
Order from K-H $55.00 K-H-5092

Trans. of Vlaamse Acad[emie voor] Geneesk[unde van] Belg[ie]. Verh[andelingen] 1952, v. 14, no. 4, p. 239-272.

DESCRIPTORS: *Cancer, *Lungs, Diseases, Statistical data.

Krug, Karl.
TOBACCO INJURIES, ESPECIALLY OF THE HEART AND CIRCULATION. [1962] 17p.
Order from K-H $21.25 K-H 3808-b

Trans. of Deutsche Gesundheitswesen (East Germany) 1955, v. 10, p. 808-812.

DESCRIPTORS: *Tobacco, Injuries, *Heart, *Blood circulation, Cigarettes.

Kumlin, T.
THE EFFECT OF TOBACCO ON THE CARDIOVASCULAR SYSTEM AND EXPERIENCES WITH SMOKING HABIT BREAKING THERAPY. [1962] 15p.
Order from K-H $18.75 K-H 9372-c

Trans. of Duodecim (Finland) 1959, v. 75, no. 1, p. 1-9.

DESCRIPTORS: *Tobacco, Smokes, Pathology, *Circulatory system, Heart, Cigarettes, Countermeasures.

Legkopudova, A. I.
EXPERIENCE IN THE SURGICAL TREATMENT OF CHEMICAL BURNS. 5 Apr 62 [11]p. 11 refs.
JPRS: 13358.
Order from OTS or SLA $1.60 62-24013

Trans. of Vestnik Khirurgii (USSR) 1962, v. 88, no. 1 p. 84-89.

DESCRIPTORS: *Burns, *Chemicals, Therapy, *Surgery, Excision.

Electrolytic burns in miners represent one of the varieties of industrial traumatism which leads to a prolonged loss of work capacity. The method of washing-off with water the electrolyte immediately after contact with the skin prevents the development of deep 3rd degree burns. This method of first aid to miners can be recommended when the subterranean health stations are situated in direct proximity of the stopes. Excision of the burn area within the limits of healthy tissues with primary suturing is an effective method of treatment of electrolytic 3rd degree burns and offers the shortest treatment periods (14.2 days). Excision of the burn area with primary closure of the defect during the late periods of admission produces good clinical results with the average disability of 14.5 days. Necrectomy, combined with the use of antiinflammation and tissue-regenerating therapy, leads to an average disability period of 20.7 days -- shorter than in conservative treatment, but longer than in radical excision of the burn area within the limits of healthy tissues with a closed suture. Therefore, it should be recommended in cases of delayed admission of patients who manifest the phenomena of reactive inflammation. (Author)

Lepp, H. and others.
LEUKOPLAKIAS AND BUCCAL CANCER DUE TO THE HABIT OF SMOKING WITH THE CIGARETTE IN REVERSE, 1. [1962] 14p.
Order from K-H $17.50 K-H 6012-a

Trans. of Sociedad Venezolana de Cirugia. Boletin, 1955, v. 9, no. 42, p. 471-481.

DESCRIPTORS: *Mucous membranes, *Mouth, Pathology, *Cancer, *Cigarettes, Smokes, *Tobacco.

Lickint, F.
EXPERIMENTAL AND STATISTICAL INVESTIGATIONS ON THE TOBACCO-SMOKE ETIOLOGY OF LUNG CANCER. [Paper from] Symposium on Questions of Carcinogenesis, Berlin, 1-16 Dec 59, [1962] 20p.
Order from K-H $25.00 K-H-11499-e

Trans. of Akad[emie] der Wissen[schaften] Berlin. [Klasse für Medizin]. Abhandlungen (Germany) 1960, no. 3, p. 187-197.

DESCRIPTORS: *Tobacco, *Smokes, *Lungs, *Cancer, Statistical data

Ling, K'uo-huan.
PRIMARY CARCINOMA OF THE LUNGS: A CLINICAL ANALYSIS OF 39 CASES WITH A DISCUSSION CONCERNING THE DELAY OF DIAGNOSIS. [1962] 21p.
Order from K-H $26.25 K-H 9681-a

Trans. of [Chung Hua Nei K'o Tsa Chih] (Chinese People's Republic) 1958, v. 6, no. 8, p. 790-795.

DESCRIPTORS: *Cancer, *Lungs, Diagnosis.

Lorie, Yu. I.
COLLAGEN DISEASE (Kollagenovaya Bolezn') tr. by R. Crawford. [1962] 21p. 35 refs. NIH no. 34.
Order from OTS or SLA $2.60 62-23505

Trans. of Vopr[osy] Pat[ologii] Serdechno-Sosud[istoi] Sist[emy] (USSR) 1955 [v. 4] no. 4, p. 11-19.

DESCRIPTORS: *Diseases, *Collagen, *Tissues (Biology), Rheumatic diseases, Allergy, Arthritis.

It is suggested that the term "collagen disease" should not be accorded general recognition in Soviet clinical medicine.

Lupu, N. Gh., Velican, C., and Mihaescu, C.
EXPERIMENTAL CONTRIBUTIONS REGARDING THE ROLE OF THE NERVOUS SYSTEM IN THE REGULATION OF THE SECRETORY RESPONSE OF THE ADRENAL CORTEX TO THE ACTION OF TOBACCO SMOKE. [1962] 35p.
Order from K-H $43.75 K-H 8535-b

Partial trans. (p. 141-168) of unidentified mono. pub. ed. by Acad. R.P.R., Bucharest, 1955.

DESCRIPTORS: *Tobacco, Smokes, *Nervous system, *Adrenal glands, Secretion.

Lupu, N. Ch. and Velican, C.
STATE OF PULMONARY SCLEROSIS CAUSED BY TOBACCO. [1962] 12p.
Order from K-H $15.00 K-H 5069-a

Trans. of [Academia Republicii Populare Romine]. Buletin Stiintific. Sectia de Stiinte Medicale (Rumania) 1954, v. 4, p. 813-826.

DESCRIPTORS: *Scleroma, *Respiratory system, *Tobacco, Smokes, Cigarettes.

Maffei, Giacomo and Miani, Pietro.
EXPERIMENTAL TABAGIE INTOXICATION: GENERAL NOTIONS AND CRITERIA OF METHOD IN THE STUDY OF ORGANS OF OTORHINOLARYNOGOLOGICAL PERTINENCY. Oct 60, 26p.
Order from K-H $32.50 K-H 10332-b

Trans. of Ateneo Parmense (Italy) 1959, v. 30, suppl. 1, p. 150-168.

DESCRIPTORS: Smokes, *Toxicity, *Tobacco, *Nicotine, Cigarettes, Otorhinolaryngology.

Maffei, G. and Miani, P.
STRUCTURES OF THE EAR IN EXPERIMENTAL TABAGIC INTOXICATION. [1962].
Order from K-H $41.25 K-H 10809-d

Trans. of Archivio Italiano di Otologia [Rinologia, e Laringologia] 1960, v. 71, p. 164-189.

DESCRIPTORS: *Tobacco, Ear, Toxicity.

Maffei, Giacomo.
TOBACCO POISONING OF THE EAR: VALUE OF THE NICOTINE-LOAD TEST (CLINICAL AND EXPER. RES.). [1962] 44p.
Order from K-H $55.00 K-H 6871-c

Trans. of Arch[ivio] Ital[iano di Otologia, Rinologia, e] Laring[ologia] 1954, v. 62, July/Aug, p. 235-262.

DESCRIPTORS: *Tobacco, *Poisoning, *Ear, *Nicotine.

May, Michel Raoul and May, J. Bouchard.
AIM OF STUDYING THE DIRECT ACTION OF TOBACCO TARS ON GRAFTED LUNG. [1962] 4p.
Order from K-H $5.00 K-H 11411-g

Trans. of Acad[emie des] Sci[ences, Paris]. Compt[es] Rend[us] (France) 1960, v. 250, no. 8, p. 1569-1571 (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Tobacco, Coal tar, *Lungs, Transplantation.

Meeroff, Marcos and Goldgel, Leon.
TOBACCO AND THE DIGESTIVE SYSTEM. Aug 60, 19p.
Order from K-H $23.75 K-H 10265-c

Trans. of Prensa Médica Argentina, 1959, v. 46, no. 29, p. 1853-1859.

DESCRIPTORS: *Tobacco, *Digestive system.

Merkov, A. M.
CANCER OF THE LUNGS AND SMOKING. [1962] 25p.
Order from K-H $31.25 K-H-5253-a

Trans. of Voprosy Onkologii (USSR) 1955, v. 1, no. 5, p. 109-116.

DESCRIPTORS: *Cancer, *Lungs, Smokes, *Cigarettes *Tobacco

Miani, P. and Maffei, G.
THE ACTION OF TOBACCO SMOKE ON THE RESPIRATORY PASSAGES AND ORGANS. [1962].
Order from K-H $52.50 K-H 10938-b

Trans. of Arch[ivio] Ital[iano di] Otol[ogia, Rinologia, e Laringologia] 1960, v. 71, p. 376-408.

DESCRIPTORS: *Smokes, *Tobacco, Cigarettes, *Respiratory system, Toxicity.

Miani, Pietro and Bottazzi, Delio.
OLFACTOMETRIC FINDINGS IN SMOKERS.
Aug 60, 32p.
Order from K-H $40.00 K-H 10265-d

Trans. of Oto-Rino-Laringologia Italiana, 1959, v. 28, p. 437-458.

DESCRIPTORS: *Tobacco, Smokes, Cigarettes, *Olfactory thresholds, Measurement.

Milletti, Mario.
CONCERNING DEVICES CAPABLE OF DIMINISHING THE TOXICITY OF TOBACCO SMOKE AND ON THE TECHNIQUE OF THEIR USE. [1962] 12p.
Order from K-H $15.00 K-H 11322

Trans. of Chimica Milan (Italy) 1960, v. 34, no. 1, p. 506-509.

DESCRIPTORS: *Tobacco, Smokes, *Toxicity, Inhibition, Nicotine.

Navarrete, Antonio.
PULMONARY CANCER AND ITS RELATIONSHIP TO TOBACCO. [1962] 3p.
Order from K-H $3.75 K-H-5339-d

Trans. of la Liga Contra el Cancer. Boletin (Cuba) 1956, v. 31, p. 17-18.

DESCRIPTORS: *Cancer, *Lungs, *Tobacco.

Nizetic, Branko and Altieri, Alfredo.
THE AUDITORY FUNCTION IN ALCOHOLIC AND NICOTINIC AMBLYOPIA. [1962] 15p.
Order from K-H $18.75 K-H 3207-c

Trans. of Rivista Oto-Neuro-Oftalmologica (Italy) 1952, v. 27, p. 197-205.

DESCRIPTORS: *Hearing, *Vision, *Alcohols, *Nicotine.

Norrkoping and Korallus, H.
SMOKING: A DISEASE. [1962] 7p.
Order from K-H $8.75 K-H 5613-b

Trans. of Svenska Läkartidningen, 1956, v. 53, 24 Aug, p. 2140-2145.

DESCRIPTORS: *Cigarettes, Diseases, *Tobacco.

Ogier, E.
ON THE PRESENCE AND REACTIVITY TOWARD NICOTINE OF GANGLIONIC FORMATIONS IN UTERUS PREPARATIONS OBTAINED BY THE MAGNUS TECHNIQUE. [1962] 13p.
Order from K-H $17.25 K-H 5285

Trans. of Archivo Italiano di Scienze Farmacologiche, 1955, ser. 3, v. 5, p. 209-217.

DESCRIPTORS: *Nicotine, *Ganglia, *Uterus.

Pacelli, Marino.
CANCER AND TOBACCO. [1962].
Order from K-H $12.50 K-H 10860-a

Trans. of Ann[ali di] Med[icina] Nav[ale e] Trop[icale] (Italy) 1960, v. 65, p. 535ff.

DESCRIPTORS: *Cancer, *Tobacco, *Cigarettes.

Papazian, R.
CLINICAL ASPECTS OF CHRONIC LUNG DISEASES CAUSED BY TOBACCO SMOKING (1). [1962] 11p.
Order from K-H $13.75 K-H 5513-c

Trans. of Probleme de Terapeutica (Rumania) 1955, v. 2, p. 74-81.

DESCRIPTORS: *Lungs, *Cancer, *Tobacco, Smokes, *Cigarettes.

Pasini, G.
ON THE RELATIONS BETWEEN LUNG CANCER AND TOBACCO. [1962] 15p.
Order from K-H $18.75 K-H 6492-a

Trans. of Minerva Medica (Italy) 1957, v. 48, no. 18, p. 713-714.

DESCRIPTORS: *Cancer, *Lungs, *Tobacco, Smokes, Cigarettes

Pavel, I. and Campeanu, S.
THE PATHOLOGICAL PHYSIOLOGY OF THE SYMPTOM OF ICTERUS DURING THE COURSE OF EPIDEMIC HEPATITIS INCLUDING INTRAHEPATIC CHOLESTASIS (Die Pathologische Physiologie des Ikterus Symptoms in Laufe der Hepatitis Epidemica Einschliesslich der Intrahepatischen Cholostase). [1962] 11p. (refs. omitted).
Order from SLA $1.60 62-18099

Trans. of Zeitschrift für die Gesamte Innere Medizin und ihre Grenzgebiete (East Germany) 1961, v. 16, 15 Aug, p. 703-707.

DESCRIPTORS: Pathology, Physiology, *Hepatitis, *Bile, Obturation, Virus diseases, Liver, Bile pigments.

Pepeu, G., Mannaioni, P. F., and Giotti, A.
THE EFFECT OF RESERPINE IN VITRO ON THE NICOTINE-REACTIVE ADRENERGIC CARDIAC STRUCTURES. Sep 60, 39p.
Order from K-H $45.75 K-H 10281-e

Trans. of Arch[ivio] Ital[iano di] Sci[enze] [Farmacologiche] 1959 [ser. 3] v. 9, Oct, p. 479-501.

DESCRIPTORS: *Reserpine, *Nicotine, *Heart, Toxicity.

Petrov, N. N.
AN INTRODUCTION TO GENERAL ONCOLOGY. Oct 62, approx. 350p.
Order from PP $12.50, college ed. $10.00

Trans. of mono. [Rukovodstvo po Obshchei Onkologii; v Kratkom Izlozhenii dlya Studentov-Medikov i Vrachei Vsekh Spetsial'nostei, Leningrad, 1958, 366p.].

DESCRIPTORS: *Tumors, *Cancer, Pathology, Therapy

Piechota, Jerzy and Wlodarski, Bronislaw.
CONDITION OF MUCOUS MEMBRANES OF THE UPPER RESPIRATORY TRACT AND OF THE EARS IN INDUSTRIAL TOBACCO FACTORY WORKERS IN LUBLIN. [1962] 11p.
Order from K-H $13.75 K-H 8388-b

Trans. of Otolaryngologia Polska, 1957, v. 11, no. 4, p. 371-378.

DESCRIPTORS: *Toxicity, *Tobacco, *Respiratory system, *Ear, Cigarettes, *Mucous membranes.

Pilheu, F. R. and Celsi, Tito.
CANCER OF THE BUCCAL CAVITY AND HEPATIC INSUFFICIENCY. [1962] 8p.
Order from K-H $10.00 K-H 11339

Trans. of la Prensa Méd[ica] Argentina, 1960. v. 47, p. 2797-2800.

DESCRIPTORS: *Cancer, *Mouth, *Liver, Diseases.

Prozorovskii, V. I.
FORENSIC MEDICINE EXPERTISE IN THE SOLUTION OF GENERAL PROBLEMS OF SOVIET PUBLIC HEALTH. 4 Apr 62 [9]p. JPRS: 13339.
Order from OTS or SLA $1.10 62-23819

Trans. of Sudebno-Meditsinskaya Ekspertiza (USSR) 1961, v. 4, no. 3, p. 3-7.

DESCRIPTORS: *Public health, Vital statistics, *Preventive medicine.

Puzik, V. I. and Uvarova, O. A.
MORPHOLOGY OF HEALING PROCESSES IN CHEMOTHERAPHY. [1962] 14p. 36 refs. [NIH]no. 188
Order from OTS or SLA $1.60 62-23545

Trans. of Sovremennye Problemy Tuberkuleza (USSR) 1955, v. 6 [no. 6] p. 3-8.

DESCRIPTORS: *Healing, *Tuberculosis, Morphology, *Chemotherapeutic agents, Aminosalicylic acid, Isoniazid, Streptomycins.

Pyriki, C.
FILTER CIGARETTES AND THEIR ACTION. [1962] 21p.
Order from K-H $26.25 K-H 6171-a

Trans. of Inst[itut für] Tabakforsch[ung]. Ber[ichte] (East Germany) 1956, v. 3, no. 2, p. 310-328.

DESCRIPTORS: *Cigarettes, *Strainers, Tobacco, *Smokes, Toxicity.

Revelli, E.
TABAGISM AND PREGNANCY. [1962] 8p.
Order from K-H $10.00 K-H-11548-f

Trans. of Minerva Ginecologica (italy) 1961, v. 13, no. 1, p. 35-37.

DESCRIPTORS: Smokes, *Tobacco, Cigarettes, *Pregnancy

Roegholt, M. N.
SMOKING AND LUNG CANCER. [1962].
Order from K-H $35.00 K-H 10843-b

Trans. of Ned[erlands] T[ijdschrift voor] Geneesk[unde] 1960, v. 104, 22 Oct, p. 2113-2123.

DESCRIPTORS: *Tobacco, Smokes, Cigarettes, *Cancer, *Lungs.

Romaguera, L. P.
IS THE CIGARETTE THE CAUSE OF CANCER OF THE LUNG? [1962] 4p.
Order from K-H $5.00 K-H-5795-a

Trans. of la Liga Contra el Cancer. Boletin (Cuba) 1956, v. 31, p. 85-86.

DESCRIPTORS: *Cancer, *Lungs, *Cigarettes.

Rosenberg, A.
EXPERIMENTS WITH BREAKING THE TOBACCO HABIT, II. [1962] 15p.
Order from K-H $19.75 K-H 10494-b

Trans. of Ugeskrift for Laeger (Denmark) 1960, v. 122, no. 21, p. 714-718.

DESCRIPTORS: *Tobacco, Cigarettes, Behavior, Countermeasures.

Scala, Carmelo.
ACTION OF VARIOUS VASODILATIVE SUBSTANCES ON VASAL LESIONS FROM NICOTINE SULFATE. [1962] 27p.
Order from K-H $33.75 K-H-5796-f

Trans. of Rivista di Patologia e Clinica (Italy) 1959, v. 10, no. 8, p. 323-346.

DESCRIPTORS: *Nicotine, Sulfates, Blood

Scala, Carmelo.
EFFECT OF ADRENALIN AND "SURRENASI" ON INTRAVASCULAR CHANGES DUE TO NICOTINE SULFATE. [1962] 26p.
Order from K-H $32.50 K-H-5796-e

Trans. of Riv[ista] Pat[ologia e] Clin[ica] (Italy) 1955, v. 10, no. 7, p. 283-302.

DESCRIPTORS: *Epinephrine, *Nicotine, Sulfates, Blood

Scala, C. and Vicari, F.
EXPERIMENTAL INHALATION OF TOBACCO SMOKE IN WHITE MICE. [1962] 15p.
Order from K-H $18.75 K-H-5796-g

Trans. of Rivista di Patologia e Clin[ica] (Italy) 1955, v. 10, no. 12, p. 673-684.

DESCRIPTORS: *Tobacco, *Smokes, Mice.

Scala, Carmelo.
INTRAVASCULAR CHANGES DUE TO NICOTINE SULFATE. [1962] 29p.
Order from K-H $36.25 K-H-5796-d

Trans. of Rivista [di] Pat[ologia e] Clin[ica] (Italy) 1955, v. 10, no. 7, p. 259-282.

DESCRIPTORS: *Nicotine, Sulfates, Blood.

Schairer, E. and Schöniger, E.
CANCER OF THE LUNGS AND TOBACCO CONSUMPTION. [1962] 15p.
Order from K-H $18.75 K-H 6918f

Trans. of unidentified mono. from the Institute of Pathology and the Scientific Institute for Research on the Dangers of Tobacco of the Friedrich-Schiller-University in Jena, n.d.

DESCRIPTORS: *Tobacco, Consumption, *Cancer, *Lungs.

Shabad, L. M.
SOME ASPECTS OF LUNG CANCER ETIOLOGY AND PATHOGENESIS. [1962] 12p.
Order from K-H $15.00 K-H 8535-e

Trans. of [Voprosy Onkologii (USSR) 1956, v. 2, no. 1, p. 10-18].
Another trans. is available from OTS or SLA $2.60 as 62-15112 [1961] 28p.

DESCRIPTORS: *Cancer, *Lungs, Eitology

Shorin, V. A. and Lyashenko, V. A.
RESULTS OF A PRELIMINARY EVALUATION OF NEW ANTI-TUMOR ANTIBIOTICS ON VARIOUS TRANSPLANTABLE TUMORS OF ANIMALS.
20 Mar 62 [7]p. JPRS: 13141.
Order from OTS or SLA $1.10 62-23583

Trans. of #Antibiotiki (USSR) 1962, v. 7, no. 1, p. 27-31.

DESCRIPTORS: *Drugs, Inhibition, *Growth, *Tumors, *Antibiotics, Cancer, Sarcoma.

Preliminary study of anti-tumor activity of 160 new antibiotics which were received in raw form by the Institute of New Antibiotics Research of the Academy of Medical Sciences USSR was conducted on three specimens of malignant growth: lymphosarcoma (LIO-1) in mice, Crocker's sarcoma and Ehrlich's adenocarcinoma. All drugs with reliable anti-tumor activity suppressed the development of lymphosarcoma and not all these antibiotics suppressed the development of Crocker's sarcoma and Ehrlich's adenocarcinoma. Out of the three assayed specimens, lymphosarcoma (LIO-1) in mice permits one to discover the greatest number of substances which suppress tumor growth. (Author)

Staszewski, Jerry.
TOBACCO SMOKING AND ESOPHAGUS AND STOMACH CANCERS AND PEPTIC ULCER. [1962] 16p.
Order from K-H $20.00 K-H 11170-b

Trans. of Pol[ski] Tyg[odnik] Lek[arski] 1961, v. 16, p. 287-292.

DESCRIPTORS: *Tobacco, Smokes, *Esophagus, *Stomach, *Cancer, Cigarettes

Staszewski, Jerzy.
IMPORTANCE OF SMOKING IN THE DEVELOPMENT OF PULMONARY CANCER. [1962] 13p.
Order from K-H $17.25 K-H 10022

Trans. of Pol[ski] Tyg[odnik] Lek[arski] 1959, v. 14, no. 43, p. 1904-1908.

DESCRIPTORS: *Smokes, Tobacco, Cigarettes, *Lungs, *Cancer.

Taugner, R.
EFFECT OF NICOTINE UPON SPINAL CORD. [1962] 63p.
Order from K-H $78.75 K-H 3199-e

Trans. of [Naunyn-Schmiedeberg's Archiv für Experimentelle Pathologie und Pharmakologie] (West Germany) 1954, v. 222, no. 1/2, p. 214ff.

DESCRIPTORS: *Nicotine, *Spinal cord

Wolffenbüttel, E[rvin].
THE EFFECTS OF SMOKING AND OF ALCOHOL UPON THE CARDIOVASCULAR SYSTEM. [1962] 6p.
Order from K-H $7.50 K-H 5691-c

Trans. of Revista Brasileira de Médicina, 1956, v. 13, no. 5, p. 380-382.

DESCRIPTORS: *Smokes, *Alcohols, Blood circulation, *Heart, *Circulatory system, Cigarettes, *Tobacco.

Wolffenbüttel, Ervin.
HOW TO STOP SMOKING. [1962] 5p.
Order from K-H $6.25 K-H 5796-h

Trans. of Revista Brasileira de Médicina, 1955, v. 12, no. 12, p. 879-880.

DESCRIPTORS: *Cigarettes, Countermeasures, *Tobacco.

Wolffenbüttel, Ervin.
TOBACCO AND THE RESPIRATORY APPARATUS. [1962] 8p.
Order from K-H $10.00 K-H 5920-c

Trans. of Revista Brasileira de Méd[icina] 1956, v. 13, no. 9, p. 687-688.

DESCRIPTORS: *Tobacco, *Respiratory system.

Yurkevich, A. Ya.
TRAUMATISM IN THE TOTAL MORBIDITY OF THE LENINGRAD POPULATION. 17 Apr 62 [11]p. 3 refs. JPRS: 13495.
Order from OTS or SLA $1.60 62-24022

Trans. of Ortopediya, Travmatologiya i Protezirovanie (USSR) 1962 [v. 23] no. 1, p. 64-68.

DESCRIPTORS: *Wounds, *Injuries, Population, Vital statistics.

Zucchelli, G. P. and Marescotti, V.
PRERADIOLOGICAL DIAGNOSIS OF OSTEOPATHY IN CUSHING'S DISEASE (La Diagnosi Preradiologica di Osteopatia nel Morbo di Cushing). [1962] 19p. 25 refs.
Order from SLA $1.60 62-16608

Trans. of Soc[ietà] Med[ico]-Chir[urgica di] Pisa. Boll[ettino] (Italy) 1959, v. 27, Jan/Feb, p. 122-135.

DESCRIPTORS: *Diseases, Bone, *Drugs, *Pituitary gland, *Diagnosis, *Corticosteroids, Metabolism, Calcium, Phosphorus, Testosterone, ACTH.

The Ca and P metabolism at basal conditions and after hormones and vitamin injections was studied in patients with Cushing's disease at the beginning of the syndrome. It is possible to detect changes in Ca and P metabolism before any radiographic alterations are apparent. Such changes can be tested with prednisone and give a diagnostic clue in osteopathy even before any radiologic examination. (Author)

Pharmacology and Toxicology

PROCESS FOR THE PREPARATION OF HAMAMELIS VIRGINIANA CONCENTRATES. [1962].
Order from K-H $10.00 K-H 11006a

Trans. of German patent 1,058,671 [pub. 1959].

DESCRIPTORS: *Drugs, Preparation.

Barac, G., Nizet, A., and Renson, J.
ABSORPTION AND ACTION OF VAL5-OCTAPEPTIDE ON INTESTINAL MOTILITY (Absorption et Action sur la Motricité Intestinale du Val5-Octapeptide). [1962] 6p. 9 refs.
Order from SLA $1.10 62-14999

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1961, v. 155, no. 4, p. 934-938.

DESCRIPTORS: Absorption, *Octanes, *Peptides, Valine, Intestine.

In dogs, cats, rabbits, guinea pigs, val5-octapeptide introduced directly into the duodenum does not appear at all in any appreciable quantity in the circulating blood. It is possible that this octapeptide is absorbed in a very small quantity by the intestinal mucosa. It is probable that the normal intestine inactivates this substance by a mechanism independent of that activating angiotensinase. There may be an immediate binding of this octapeptide with one or several constituents of the intestinal cell. (Author)

Bastide, Peirre, Jacquemet, Louis and others.
THE BINDING OF CERTAIN DRUGS (SULFADIMETHOXINE, CHLORPROPAMIDE, PHENBUTAMIDE, ACEPROMAZINE, DIMETHYLBEBEERINE) TO HUMAN AND BOVINE SERUM PROTEINS. [1962] 2p.
Order from SLA $1.10 62-14915

Trans. of Journal de Physiologie (France) 1961, v. 53 [no. 2] p. 265-266.

DESCRIPTORS: *Blood proteins, Chemical bonds, *Drugs, *Sulfadizine, Alkoxy radicals, *Sulfonamides, *Phenothiazine derivatives, Acetyl radicals, *Berberine, Methyl radicals, *Chlorpropamide, Amides.

The study of the binding to human and bovine serum proteins of certain drugs (sulfadimethoxine, chlorpropamide, phenbutamide, acepromazine, dimethylbebeerine) makes apparent some differences in keeping with the kinetics of elimination in the organism on one hand, and, on the other hand, with the level of protein in the experimental serum. (Author)

Boglione, G., Fabiani, A., and Pesce, S.
EFFECT OF SULFONYLUREAS ON THE GLUCOSE-ASSIMILATING CAPACITY IN DIABETICS. [1962] 3p.
Order from SLA $1.10 62-14919

Trans. of Minerva Medica (Italy) 1958, v. 49, no. 32, p. 1523.

DESCRIPTORS: Drugs, *Sulfonyl radicals, *Urea derivatives, *Glucose, Adrenal cortical extract, Insulin, ACTH, *Diabetes.

Bounameaux, Y.
INHIBITING ACTION OF NIVAQUINE AND VARIOUS ANTIHISTAMINICS ON THE FORMATION OF SICKLE CELL ERYTHROCYTES IN SICKLE CELL ANEMIA (Action Inhibitrice de la Nivaquine et de Divers Antihistaminiques sur la Formation d'Hématies en Faucilles dans l'Anémie Drépanocytaire). [1962] 3p. 3 refs.
Order from SLA $1.10 62-16600

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1961, v. 155, p. 425-426.

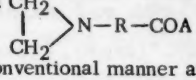
DESCRIPTORS: *Drugs, *Vasomotor drugs, *Erythrocytes, *Anemia, Chlorpromazine, Pyribenzamine, *Quinalines, *Histamines, Inhibition.

Bracco, Fulvio.
PROCESS FOR PRODUCING ANTI-RADIATION EFFECTIVE CYSTEAMINE DERIVATIVES. [1962] 9p.
Order from RIS $16.25 RIS rept. 97075

Trans. of German patent application B 49 268 (12q, 6/01) DAS 1 062 705, filed 12 June 58, pub. 6 Aug 59 pat. pub. date 14 Jan 60 (priority: Switzerland July 57).

DESCRIPTORS: Drugs, *Cysteinamines, *Radiation sickness, Amines, Acetic acids.

A process is proposed for producing anti-radiation effective cysteamine derivatives of the general formula $HS-CH_2-CH_2-NH-R-COA$, in which R is a low, straight or branched alkylene group, preferably with 1 to 2 carbon atoms, and —COA is a carboxyl, ester of amido group, and for producing the salts of these compounds. The process is characterized in that a compound of the general formula X—R—COA, in which X is a reactive ester group, or glyconitrile or formaldehyde, and hydrocyanic acid are converted with a compound of the general formula $Y-S-CH_2-CH_2-NH_2$ or a compound of the general formula $H_2N-R-COA$ is converted with a compound of the general formula $Y-S-CH_2-CH_2-X$, with Y being a group easily split off by reduction of hydrolysis, to produce a compound of the general formula $Y-S-CH_2-CH_2-NH-R-COA$ or possibly of the general formula $Y-S-CH_2-CH_2-NH-CH_2-CN$, with these being converted subsequently by reduction and or hydrolysis. The product of the process is built up in a different sequence, with a reactive ester of the general formula $X-CH_2-CH_2-NH-R-COA$ or an ethyleniminoalkylcarboxylic acid of the general formula



being produced in a conventional manner and these being subsequently converted with sulfuric acid or its salts, with mercaptans and their salts, with alkali thiosulfates, alkali thiocyanates, alkali xanthogenates or with thiourea, after which the conversion products are converted .

Brion, A. and Fontaine, M.
SPONTANEOUS "DIABETES" IN THE DOG AND THE HYPOGLYCEMIC SULFONAMIDES, tr. by T. J. Vecchio. 15 Aug 61, 3p.
Order from SLA $1.10 62-14983

Trans. of Therapie (France) 1959, v. 14, p. 68-69.

DESCRIPTORS: *Diabetes, Dogs, *Therapy, *Sulfonamides, Chemotherapeutic agents, Drugs.

Bünger, Paul and Koch, Gudrun.
CLINICAL INVESTIGATIONS WITH 2-SULFANILAMIDO-5-METHOXYPYRIMIDINE. 15 Jan 62, 29p. 25 refs.
Order from SLA $2.60 62-14343

Trans. of Arzneimittel-Forschung (West Germany) 1961, v. 11, Aug, p. 726-[736].

DESCRIPTORS: *Sulfonamides, *Pyrimidines, *Bactericides, Cerebrospinal fluid, *Toxicity, *Infections,

Distribution of sulfamethoxy-1, 3-diazine, a new sulfapyrimidine derivative, in the human organism was studied. Figures for concentration in cerebrospinal fluid, pleural exudate, ascites, and mother's milk are given. Urinary excretion was investigated and analyzed with regard to metabolites. The maintenance dose of 0.5 gram is reliably eliminated within 24 hours. In the urine 40% appears as free sulfamethoxy-1, 3-diazine, the remainder appears either in the form of the glucuronide or the N^4-acetyl derivative. No accumulation occurred following the above dosage. Toxic symptoms were not observed, allergic systems are described. Clinical results in 220 patients are described, discussed and compared with those obtained with pyrrolidinomethyltetracycline and sulfadimethoxine. Special types of treatment and impressive case histories are described. Sulfamethoxy-1, Sulfamethoxy-1, 3-diazine is significantly superior in the treatment of infections with E. coli, based on cases where the pathogenic agent was clearly identified. Sulfamethoxy-1, 3-diazine. It is excellently tolerated at the dosage successfully used in the clinical investigation. (Author)

Danishevskii, S. L. and Kochanov, M. M.
ZUR TOXIKOLOGIE EINIGER ORGANISCHER FLUOR-VERBINDUNGEN (On the Toxicology of Some Organic Fluorine Compounds). 8p. (text in German).
Order from T.I.B. $1.55

Trans. of Gigiena Truda i Professional'nye Zabolevaniya (USSR) 1961, v. 5, no. 3, p. 3-8.

DESCRIPTORS: *Toxicity, *Fluorides, Organic compounds.

Flury, F.
ON PHOSPHINE. [1961] 4p. 2 refs. MDF F-117.
Order from OTS $0.50 62-11558

Trans. of Anzeiger für Schädlingskunde Vereinigt mit Schädlingsbekampfung (West Germany) 1937, v. 13, p. 26-28.

DESCRIPTORS: *Hydrides, *Phosphorous compounds, *Pest control, Inhibition, *Poisoning, Poisonous gases, Toxicity.

Ginoulhiac, E.
COMPARATIVE ACTIVITY OF PREDNISOLONE, DEXAMETHASONE, AND OTHER FLUORO-DERIVATIVES OF PREDNISOLONE ON TRYPTOPHAN-PEROXIDASE-OXIDASE. [1962] 6p.
Order from ATS $8.50 ATS-00P61I

Trans. of Acta Vitaminol[ogica] (Italy) 1959, v. 13, no. 8, p. 149-154.

DESCRIPTORS: Amino acids, *Tryptophan, Enzymes, *Peroxidase, *Oxidases, *Corticosteroids, Fluorides, Drugs.

Glozman, O. S. and Kasatkina, A. P.
MODERN METHODS OF THERAPY OF ACUTE INTOXICATIONS. [1962] 30p. [NIH] no. 186.
Order from OTS or SLA $2.60 62-23547

Trans. of Klinicheskaya Meditsina (USSR) 1957, v. 35, no. 7, p. 14-23.

DESCRIPTORS: *Therapy, *Poisoning, *Toxicity, Artificial kidney, Transplantation, Parabiosis, Body fluids.

Guseinov, D. Ya.
THE EFFECT OF PENTAGYNOUS HAWTHORNE UPON THE BIOELECTRIC ACTIVITY OF THE CEREBRAL CORTEX OF RABBITS. 6 July 62 [13]p. 7 refs. JPRS: 14396.
Order from OTS or SLA $1.60 62-25608

Trans. of Azerbaidzhanskii Meditsinskii Zhurnal (USSR) 1962, no. 3, p. 16-23.

DESCRIPTORS: *Drugs, *Bioelectronics, *Cerebral cortex, Inhibition, Heart, Stimulation, Rabbits.

Subcutaneous infections of either liquid-alcohol or aqueous suspensions of extract of pentagynous hawthorne in doses of 0.5 ml/kg reduced the bioelectrical activity of the cerebral cortex in rabbits. Five- and ten-day administrations of the preparations into rabbits in a dose of 0.5 ml/kg caused more pronounced changes in the electroencephalograms of the animals, testifying to the prevalance of inhibitory processes in the cortex. Under the influence of the test preparations of pentagynous hawthorne in doses of 0.5 ml/kg, especially upon their repeated administration, cardiac activity is considerably strengthened, the systolic rhythm is slowed, and the voltage of the R-wave is raised.

Huidobro, H. and Valette, G.
INSENSITIVITY OF THE ISOLATED GUINEA PIG ILEUM TO CONTRACTING AGENTS UNDER THE EFFECT OF LARGE DOSES OF HISTAMINE OR ACETYLCHOLINE (Insensibilité de l'Iléon Isolé de Cobaye aux Agents Contracturants sous l'Effet de Fortes Doses d'Histamine ou d'Acétylcholine). [1962] 7p. 9 refs.
Order from SLA $1.10 62-18047

Trans. of Arch[ives] Int[ernationales de] Pharmacodyn[amie et de Thérapie] (Belgium) 1961, v. 132, p. 287-294.

DESCRIPTORS: Drugs, *Reaction (Physiology), *Histamines, *Acetylcholines, *Intestine, *Stimulation, Sensitivity, Anaphylaxis.

The guinea pig ileum, when immersed during some time in a Tyrode solution containing Histamine or Acetylcholine, reached a stable tonus. When adding subsequent strong doses of Acetylcholine or Histamine, the intestine reacted in a biphasic manner: a short-time contraction followed by a prolonged relaxation. During the relaxation phase, the organ became insensitive to varied contracting substances (Acetylcholine, Histamine, Baryum chloride, 5-hydroxytryptamine) and also to coaxial electrical stimulation. If the experiment was performed on an organ previously sensitized, the addition of the specific antigen did not induce any response during the period of relaxation. An interpretation explaining the observed phenomenon is proposed. (Author)

Jouvet, M. and Courjon, J.
NEUROPHYSIOLOGICAL STUDY OF THE CENTRAL ACTION OF PHENYL-PIPERIDYL ACETIC ACID METHYL ESTER HYDROCHLORIDE (RITALIN) (Étude Neurophysiologique de l'Action Centrale du Chlorydrate de l'Ester Méthylique de l'Acide Phényl Pipéridyl Acétique (Ritaline)). [1962] 5p. 13 refs.
Order from SLA $1.10 62-18048

Trans. of Arch[ives] Int[ernationales de] Pharmacodyn[amie et de Thérapie] (Belgium) 1959, v. 119, p. 189-193.

DESCRIPTORS: Drugs, *Piperidine derivatives, Cerebral cortex, Brain, Phenyl radicals, Acetic acids, Methyl radicals, Chlorides.

Experiments on cats showed that the very distinct central activation provoked by Ritalin is due to its elective action on the mesencephalic reticular substance. This effect is not exerted on the cortical

areas for it disappears after destruction of the median diencephalic posterior formations. Ritalin acts electively on the central multisynaptic formations and does not exert any action on the pauci-synaptic routes of conduction. (Author)

Lambert, P. A. and Site, J.
STATISTICAL PROOF OF THE EFFECT ON WEIGHT OF AN ANABOLIC AGENT IN LOW DOSES (METHANDROSTENOLONE) (Preuves Statistiques de l'Action Pondérale d'un Anabolisant a Faible Dose (Méthandrosténolone). [1962] 5p. 2 refs.
Order from SLA $1.10 62-16015

Trans. of la Presse Méd[icale] (France) 1961, v. 69 [no. 38] p. 1638.

DESCRIPTORS: Drugs, *Hormones, *Methandrostenolone, Growth substances, *Body weight, Metabolism.

The efficacy of methandrostenolone or 1-dehydromethyl testosterone has been measured under particularly objective experimental conditions. In these doses, 10 mg daily, an average weight gain of 2 Kg was obtained in one month. (Author)

Loubatieres, A.
ANALYSIS OF THE BETACYTOTROPIC ACTION OF THE HYPOGLYCEMIC SULFONAMIDES (BASIS FOR ITS USE IN THE TREATMENT OF DIABETES). [1962] 18p. 54 refs.
Order from SLA $1.60 62-14921

Trans. of la Presse Médicale (France) 1960, v. 68 [no. 38] p. 1421-1424.

DESCRIPTORS: Drugs, *Sulfonamides, *Pancreas, Cells (Biology), Insulin, *Diabetes.

The present article is devoted to an analysis of the remarkable tropism that the hypoglycemic sulfonamides possess for the beta cells of the islets of Langerhans of the pancreas (β-cytotropism), to the trophic action that these substances exert on the β-cell apparatus (β-cytotrophsm) and to the potentiating effect that the hypoglycemic sulfonamides exert on the action of insulin. These substances have a preferential tropism for the beta cells of the islets of Langerhans of the pancreas (betacytotropism) which stimulates them to liberate into the blood stream an increased amount of endogenous insulin. The histologic and functional changes are described presented by the beta cells (betacytotropism) and the effects are analyzed of the hypoglycemic sulfonamides on insulin or its complexes.

Loubatieres, A., Mariani, M.-M. and others.
RECENT OBSERVATION ON THE EFFECT OF ADMINISTRATION OF CHLORPROPAMIDE FOR TWENTY MONTHS TO THE DOG RENDERED DIABETIC BY SUBTOTAL PANCREATECTOMY. [1962] [5]p.
Order from SLA $1.10 62-14914

Trans. of Societe de Biologie [et de ses Filiales]. Comptes Rendus des Seances (France) 1961, v. 155, no. 2, p. 335-338.

DESCRIPTORS: Drugs, *Sulfonamides, *Chlorpropamide, Insulin, Glucose, *Diabetes, Pancreas.

The hypoglycemic sulfonamides administered chronically for 20 months to the dog with a pancreatic fragment equal to one-tenth of the initial pancreatic mass do not exhaust the insulin-secreting capacity of the persistent β cells, as long as the exocrine system of the pancreas is not invaded by a secrotic process that interferes with the free interrelations, both organic and functional, between the endocrine and exocrine tissue. The hypoglycemic sulfonamides, when administered chronically, protect the beta cellular system from the exhaustive and diabetogenic processes which usually succeed in injuring and exhausting the persisting beta cell apparatus in the dog with 1/10 of his pancreas around the anastomosis between the duct of Wirsung and the duodenum. (Author)

Markova, I. V.
AGE SENSITIVITY TO BARBITURATES AND ITS DEPENDENCE ON THE DEVELOPMENT OF THE HYPOPHYSEAL ADRENAL SYSTEM. [1962] [10]p. 7 refs.
Order from OTS or SLA $1.10 62-14777

Trans. of #Byull[eten'] Eksper[imental'noi] Biol[ogii i] Med[itsiny] (USSR) [1960] v. 50, no. 10, p. 87-91.

DESCRIPTORS: Drugs, Narcotics, *Barbiturates, *Adrenal glands, Pituitary gland, *Brain, *Age, Sensitivity.

We determined (1) the influence of adrenal removal on the narcotic effect of hexanol, and (2) medinal content in the brain of rats at different ages. (Author)

Mattu, Flavio, Pirisi, Renzo, and Manca, Maria R.
ON SOME DERIVATIVES OF ISONICOTINE HYDRAZIDE. PHOTO- AND THERMOTROPISM OF o. NITROBENZYLIDENE ISONICOTINE HYDRAZIDE. [1961] 13p. (5 figs. omitted).
Order from SLA $1.60 62-14043

Trans. of Italian language article from an unidentified source, n.p., n.d.

DESCRIPTORS: Drugs, *Isoniazid, *Nicotinic acid, Molecular isomerism, Nitro radicals.

Some derivatives are described of the hydrazide of isonicotinic acid, and from the behavior of o-nitrobenzylidene-isonicotine hydrazide the existence of two isomeric forms in this substance is deduced.

Meissner, R.
ON THE TOXICOLOGY OF HYDROGEN PHOSPHIDE. [1961] 10p. 10 refs. MDF M-116.
Order from OTS $0.50 62-11368

Trans. of Z[eit]s [chrift] f[ür] die Gesamte Exper[imentelle] Med[izin] (Germany) 1924, v. 42, p. 267-274.

DESCRIPTORS: *Hydrogen compounds, Phosphides, Toxicity, *Hydrides, *Phosphorus compounds.

Mildner, Th.
TOBACCO AS THERAPEUTIC AGENT IN PAST TIMES. [1962] 8p.
Order from K-H $10.00 K-H 10401-d

Trans. of Münchener Med[izinische] Wochenschrift (West Germany) 1960, v. 102, no. 14, p. 700-702.

DESCRIPTORS: *Tobacco, Drugs, *Therapy.

Muller, W.
ACUTE AND SUBACUTE POISONING. Pt. 1 of On Phosphine Poisoning (Animal Experiments). [1961] 9p. MDF M 117.
Order from OTS $0.50 62-11390

Trans. of [Naunyn-Schmiedberg's] Archiv f[ür] Exp[erimentelle] Path[ologie] U[nd] Pharm[akologie] (Germany) 1940, v. 195, p. 184-193.
Another trans. is available from ATS $12.15 as ATS-11N54G [1961] 8p.

DESCRIPTORS: *Phosphines, Toxicity, *Poisoning

According to the existing results of phosphine disasters as well as on the basis of the animal experiments undertaken up to now, phosphine is to be recognized as a very toxic gas, especially since it manifests a cumulative effect in repeatedly inhaled weak as well as dangerous quantities. Phosphine is a poison which attacks the centers essential to life, above all the respiratory and the vascular, and also endangers the lungs, liver and kidneys. (Author)

Nikolov, Iv., ed.
AGAINST ATOMIC, BACTERIOLOGICAL AND CHEMICAL WARFARE. Pt. 1 of Principles of Medical Defense. 31 July 62 [227]p. 26 refs. JPRS: 14655.
Order from OTS or SLA $15.00 62-32191

Trans. of mono. Osnovi na Mediko Sanitarnata Zhashtita (Foundations of Medical-Sanitary Defense) Sofia, 1959, p. 207-316.

DESCRIPTORS: *Radiological warfare, *Military medicine, *Biological warfare, *Chemical warfare, Countermeasures, *Toxicity, Poisons, *Poisonous gases, Anoxia, Mustard gas, Lewisite, Oximes, Phosgene, Arsines, National defense, Poisoning.

Contents:
Some problems in general toxicology
Requisites for combat toxic substances to meet
Toxicology of asphyxiating combat poison substances: physical-chemical and toxicological characteristics
Toxicology of combat poisons with general toxic effects
Toxicology of combat vesicants
Toxicology of combat poisons with irritating action
Sanitary-chemical defense.

Pedich, Wojciech.
CASE OF AURICULAR FIBRILLATION AS A RESULT OF SEVERE NICOTINE POISONING. [1962] 10p.
Order from K-H $12.50 K-H 5538-a

Trans. of Polski Tygodnik Lekarski, 1956, v. 11, no. 16, p. 705-[717].

DESCRIPTORS: Diseases, *Heart, *Poisoning, *Nicotine.

Planel'es, Kh. Kh., ed.
MYCERIN: SELECTED PORTIONS. 27 Aug 62, 19p. JPRS:14960.
Order from OTS $0.75 62-11758

Trans. of mono. Mitserin, Moscow, 1961, p. 5-8, 283-288, and 305-308.

DESCRIPTORS: *Antibiotics, Neomycin, Therapy, *Infections, Toxicity, Drugs

Contents:
Introduction
Results and outlook for further clinical use of mycerin
Table of contents

Rosa, J. C. da and Costa, A.
RESERPINE IN COMBINATION WITH PROPYLTHIOURACIL IN PREOPERATIVE PREPARATION OF HYPERTHYROIDISM (A Reserpina Associada ao Propiltiuracil no Preparo Pre-operatorio do Hipertiroidismo). [1962] 2p.
Order from SLA $1.10 62-16080

Trans. of An[ais] Paulistas [de] Méd[icina e] Cir[urgia] (Brazil) 1960, v. 80 [no. 6] p. 342 and 344.

DESCRIPTORS: *Drugs, *Reserpine, *Surgery, Thyroid gland, *Hyperthyroidism, Propyl radicals, *Thiouracils.

On the basis of the action of reserpine we began to combine it with propylthiouracil in the preoperative preparation of hyperthyroidism in order to depress the excitability of the neurovegetative system which bothers these patients so much and also to reduce the time of preparation. The average period of preparation with propylthiouracil in the usual doses is about 4 months. In the 6 cases in which we combined propylthiouracil with the alkaloid (the former in the usual doses and the latter in a dose of 0.4 to 0.6 mg daily), we reduced this time by about 2 months. But in one case we had to replace propylthiouracil by mercaptoimidazole because of leukopenia. (Author)

Rozhnyastovskii, Tadeush and Zhultovskii, Zbignev.
BIOLOGICAL WARFARE: THE THREAT AND THE REALITY. 6 Aug 60 [479]p. 110 refs. JPRS: 5229.
Order from OTS or SLA $23.50 60-41126

Trans. of Russian ed., Moscow, 1959, 330p. of an unidentified Polish mono. pub. Warsaw, 1957.

DESCRIPTORS: *Biological warfare, History, *Epidemiology, *Viruses, *Bacteria, *Disease carriers, *Arthropods, Insects, Arachnids, *Diseases, Botulism, Spirochetosis, Shigella infections, Anthrax, Plague, Measles, Parotitis, Virus pneumonia, Glanders, Meloidosis, Brucellosis, Hepatitis, Yellow fever, Virus diseases, Malaria, Spotted fever, Q fever, *Animals, *Plants.

Contents:
An outline of the history of bacteriological warfare. Legends, conjecture, fact
Outline of the theory of biological warfare
Survey of human illnesses, potentially suitable for use as biological means of warfare
Biological warfare against animals
Biological warfare against plants
The tactics of biological warfare
Defense in biological warfare
Bibliography

Santacroce, A. and Pipino, F.
THEORETICAL PRESUPPOSITIONS OF TREATING RAREFYING BONE SYMPTOMS WITH A COMBINATION OF ANABOLIC STEROIDS, ADENOSINE TRIPHOSPHORIC ACID AND VITAMIN C (Sui Presupposti Teorici della Terapia delle Sindrome Rarefacenti Ossee con l'Associazione di Steroidi Anabolizzanti, Acido Adenosintrifosforico e Vitamina C). [1962] 6p.
Order from SLA $1.10 62-18051

Trans. of Minerva Medica (Italy) 1961, v. 52 [no. 29] p. 1352-1354.

DESCRIPTORS: Theory, *Therapy, Drugs, *Diseases, *Bone, *Adenosine phosphates, *Ascorbic acid, Steroids.

Sontag, K. H.
PHARMACOLOGIC STUDIES ON THE MECHANISM OF ACTION OF THE 1, 3-DIOXOLANES. 7 Feb 62 [30]p. JPRS: 12379.
Order from OTS or SLA $2.60 62-15958

Trans. of Acta Biologica et Medica Germanica (West Germany) 1961, v. 7, no. 2, p. 145-160.

DESCRIPTORS: *Drugs, Pharmacology, *Heterocyclic compounds, *Autonomic nervous system, *Muscles, Nerves, Cells (Biology), Epinephrine, Relaxation time, *Heart.

A stimulation-reflex method was used to determine the latency period between a C-and a L-segment, and the prolongation of this interval was attributed to an effect upon the interneurons. 2-Ethyl-2-phenyl-4-hydroxymethyl-1, 3-dioxolane (K_{61}) possesses parasympatholtic activity. When low dosages of the drug are employed the tonus of the voluntary muscles is strikingly reduced which is presumably associated with changes of the γ-fibers of the muscular spindle. Further investigations will be required in order to find out which biochemical or physico-chemical mechanisms are involved in the action of K_{61} upon the cholinergic fibers or synapses. (Author)

Tuchmann, H., Gabe, M., and Mercier-Parot, L.
REDUCTION IN SECRETION PRODUCT OF THE HYPOTHALAMO-NEURO-HYPOPHYSIS AFTER INJECTION OF RESERPINE (Diminution du Produit de Sécrétion Hypothalamo-Neuro-Hypophysaire après Injection de Réserpine). [1962] 16p. 13 refs.
Order from SLA $1.60 62-18050

Trans. of Ann[ales] d'Endocrinologie (France) 1962, v. 23, p. 65-77.

DESCRIPTORS: Drugs, Secretion, *Pituitary gland, *Reserpine, Inhibition.

The histological study of the hypothalamo-hypophysary neuro-secretory path in rats after the administration of reserpine gives the following information. Reserpine injections cause a reduction in the product of neuro-secretion in the neuro-hypophysis, those of the solvent remain ineffective; the reduction of the content of the product of neuro-secretion is therefore clearly due to the alkaloid of Rauwolfia. This reduction in the content of the hypothalamo-neuro-hypophysary tract in the product of neuro-secretion under the influence of reserpine is also evident when the administration is carried out on rats who have undergone a stimulation of osmoregulation. The reduction of the product of neuro-secretion in the neuro-hypophysis of rats receiving reserpine does not seem to be connected with a modification in the hydro-mineral balance; it is probably due to a slight elaboration in the perikaryons originating in the hypothalamo-hypophysary tract. These results represent a morphological argument in favor of the direct action of reserpine on the functioning of the hypothalamo-hypophysary complex of albino rats. (Author)

Radiobiology

WORKS OF THE INSTITUTE OF HIGHER NERVOUS ACTIVITY, PATHOPHYSIOLOGICAL SERIES, 1958, VOL. 4, EXPERIMENTAL STUDY OF THE EFFECT OF IONIZING RADIATION ON THE HIGHER PARTS OF THE CENTRAL NERVOUS SYSTEM, tr. by M. Roublev and S. Shoshan. 1962, 252p. 238 refs. PL-480 HEW.
Order from OTS $2.50 61-31021

Trans. of Akademiya Nauk SSSR. Institut Vysshei Nervnoi Deyatel'nosti. Trudy. Seriya Patofiziologicheskaya, 1958, v. 4, Opyt Eksperimental'nogo Issledovaniya Vliyaniya Ioniziruyushchego Izlucheniya na Vysshie Otdely Tsentral'noi Sistemy [284]p.

DESCRIPTORS: *Pathology, *Radiobiology, *Intestine, Reaction (Physiology), *Gamma rays, Conditioned reflex, *Respiratory system, Motor reactions, *Nervous system, Physiology, Secretion, Analyzers (Psychology), Cerebral cortex, Stimulation, *Vision, *Genetics, *Ionization, *X-rays, Staphylococcus, *Bacterial toxins, Diphtheria, *Pregnancy, *Infections, *Brain, *Metabolism, *Proteins, Cobalt, Radioactive isotopes, Digestive system.

Contents:
Basic trends in radiobiological studies in the Institute of Higher Nervous Activity of the Academy of Sciences of the USSR, by I. A. Piontkovskii
Changes in motor alimentary conditioned reflexes of white rats under the effect of local gamma-irradiations (Co^{60}) by V. E. Miklashevskii
Effect of damaging doses of gamma-radiation on unconditioned and conditioned respiratory reflexes, by F. Z. Meerson

Effect of gamma-rays on higher nervous activity of dogs by L. N. Khruleva

Effect of gamma-irradiation on the course of conditionec secretory-motor alimentary reflexes in dogs, by N. G. Ivanova

Effect of local irradiation of the cortical component of the visual analysor in rabbits on motor defense reflexes elaborated with visual stimuli, by R. M. Meshcherskii

Importance of animal nervous system type in the development and regression of changes in higher nervous activity following irradiation, by L. I. Kotlyarevskii and others

Disorders in the trace and simultaneous conditioned reflex systems brought about by the action of ionized radiation on white rats, by L. S. Gorsheleva

Effect of repeated X-ray irradiation on higher nervous activity in animals (white rats) by L. E. Khozak

Effect of injection of staphylococcal toxin on active and trace conditioned reflexes in previously irradiated white rats, by L. S. Gorsheleva

Effect of diphtheria toxin on the activity of the higher parts of the central nervous system in animals (white rats) previously subjected to X-ray irradiation, by L. E. Khozak

Some disorders in higher nervous activity of rats born of females exposed during pregnancy to gamma-rays of radioactive cobalt (Co^{60}) by I. A. Piontkovskii and I. A. Volodina

Certain data on the influence of ionizing radiation on the morphology of the central nervous system in animals, by M. M. Aleksandrovskaya

Histopathological changes in the central nervous system following toxin administration and infections, in animals previously irradiated, by M. M. Aleksandrovskaya

Effect of local single irradiation of rabbit brain on its morphology, by N. I. Artyukhina

Histopathological changes in the CNS and in the internal organs of white rats following irradiation of the brain with varying doses, by N. I. Aryukhina

Certain changes in protein metabolism of the brain following irradiation with gamma-rays of Co^{60}, by M. S. Osipova.

Eidus, L. Kh. and Ganassi, E. E.
ANALYSE ÜBER DIE WIRKUNG DER PHYSIKALISCHEN HAUPTFAKTOREN, DIE DIE STRAHLUNGSEMPFINDLICHKEIT ÄNDERN. (On the Effect of the Main Physical Factors Influencing the Radiation Sensibility). 18p. (text in German)
Order from T. I. B. $1.85

#Trans. of Biofizika (USSR) 1960 [v. 5] no. 5, p. 523-532.

DESCRIPTORS: *Radiation tolerance.

Gesova, A. B.
ZUR FRAGE DER AUSSCHEIDUNG RADIOAKTIVER ISOTOPE BEI EINIGEN VERTRETERN WIRBELLOSER WASSERTIERE. (On the Excretion of Radioactive Isotopes of Some Representatives of Nonvertical Aquatic Animals). 5p. (text in German).
Order from T.I.B. $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 133, p. 459-461.

DESCRIPTORS: *Radioactive isotopes, Excretion, Aquatic animals.

Gorizontov, P. D.
THE PATHOGENESIS OF ACUTE RADIATION SICKNESS (Problema Patogeneza Ostroi Luchevoi Bolezni). [1962] 21p. (2 figs. omitted) 34 refs. NIH no. 165.
Order from OTS or SLA $2.60 62-23517

Trans. of Arkhiv Patologii (USSR) 1955, v. 17, no. 4, p. 3-14.

DESCRIPTORS: Pathology, *Radiation sickness, Toxicity, Histamines.

Kheisin, E. M. and Khenokh, M. A.
THE EFFECT OF ULTRASOUND ON COCCIDIA OOCYTES OF THE RABBIT. 1 Aug 62 [14]p. 30 refs. JPRS: 14676.
Order from OTS or SLA $1.60 62-32198

Trans. of Biofizika (USSR) 1956, v. 1, no. 8, p. 721-728.

DESCRIPTORS: *Ultrasonic radiation, *Coccidia, Rabbits, Cells (Biology), *Spores, Growth.

Ultrasound causes ruptures in oocysts membranes and the outward extrusion of their contents. After exposure for 5 to 30 seconds about 60% of oocysts are destroyed, and following exposure to ultrasound for 1 to 30 minutes up to 99% of oocysts are destroyed. Non-sporulating oocysts remaining undestroyed even after 30-minute exposure are capable of sporulation. Among the undestroyed oocysts there are some whose membranes permeability has increased, and they are not viable. Ultrasound first causes injury to the membrane in the region of the micropyle, and later breaks occur in other sites. (Author)

Klemparskaya, N. N.
INFECTION AND IMMUNITY IN RADIATION SICKNESS (Infektsiya i Immunitet pri Luchevoi Bolezni)tr. by R. A. Hetherton. [1962] 17p. 37 refs. NIH no. 169.
Order from OTS or SLA $1.60 62-24958

Trans. of Meditsinskaya Radiologiya (USSR) 1956, v. 1, no. 5, p. 3-10.

DESCRIPTORS: *Infections, *Immunization, *Radiation sickness, Inhibition, Antibodies.

Kochetkova, T. A., Avrunina, G. A., and Sagaidak, N. D.
CONCERNING THE CANCEROGENIC PROPERTIES OF SOME RADIOACTIVE COMPOUNDS AT A REMOTE PERIOD OF THEIR ACTION. 8 Aug 62 [14]p. 7 refs. JPRS: 14762.
Order from OTS or SLA $1.60 62-32375

Trans. of Arkhiv Patologii (USSR) 1962, v. 24, no. 5, p. 3-7.

DESCRIPTORS: *Cancer, *Lungs, *Radioactive isotopes, Aerosols, Iron compounds, Oxides, Chromium compounds, Phosphates, Sodium, Iron.

With intracheal administration to white rats of radioactive insoluble compounds of ferric oxide (Fe^{59}), chromium phosphate (P^{32}), and colloidal gold (Au^{198}), in remote periods of action - after 6 months or more - planicellular keratosic lung cancer with metastases into the pleura, and regional mesenteric lymphatic nodes, occurred in 22 of the 198 animals. In case of the administration of soluble solutions of radioactive sodium (Na^{24}) and iron (Fe^{59}) and also insoluble ferric oxide (Fe^{59}), of low activity, no origination of a tumeral process in the lungs was noted even after 15 - 24 months. In case of the action of soluble and insoluble radioactive compounds, changes were noted in blood-vessel walls, predominantly these of the lungs, in the form of dystrophic changes and infraction of their permeability with the subsequent development of perivascular and peribronchial scleroses. The data obtained indicate that it is possible for large tissue doses of radiation to occur from insoluble radioactive compounds in the foci of their deposition. The necessity arises for more rigid requirements in setting up standards for insoluble substances. (Author)

Leone, Charles A., ed.
IONIZING RADIATIONS AND IMMUNE PROCESSES. 1962, 537p.
Order from GB $12.50

Trans. of mono. (scientific papers) presented at the International Symposium on the Effects of Ionizing Radiations on Immune Processes, sponsored by the U. S. Atomic Energy Commission and Kansas U., Sep 61.

DESCRIPTORS: Ionization, *Radiation sickness, *Immunization.

Mozhukin, A. S. and Pevzner, D. L.
THE CHANGE OF THE CHOLINESTERASE ACTIVITY IN ACUTE RADIATION SICKNESS. [1962] [5]p. 5 refs.
Order from OTS or SLA $1.10 62-14721

Trans. of #Byull[eten'] Eksp[erimental'noi] Biol[ogii i] Med[itsiny] (USSR) 1959, v. 48, no. 9, p. 34-37.

DESCRIPTORS: *Radiation sickness, Gamma rays, Enzymes, *Cholinesterase, Strychnine, Serine, *Nervous system.

Petrov, I. R. and Kulogya, V. K.
PATHOLOGICAL REACTION IN ACUTE RADIATION SICKNESS. [1962] 11p. (39 refs. omitted) 2 refs. NIH no. 175.
Order from OTS or SLA $1.60 62-24622

Trans. of Meditsinskaya Radiologiya (USSR) 1957, v. 2, no. 2, p. 3-12.

DESCRIPTORS: Pathology, *Radiation sickness, Oxygen consumption, *Nervous system, Blood, Blood clots, Inhibition, Hemorrhage

Pobedinskii, M. N.
THE BLASTOMOGENIC EFFECT OF IONIZING RADIATION (Blastomogennoe Deistive Ioniziruyushchevo Izlucheniya) tr. by R. A. Hetherton. [1962] 24p. 49 refs. NIH 177.
Order from OTS or SLA $2.60 62-24959

Trans. of Meditsinakaya Radiologiya (USSR) 1956, v. 1, no. 5, p. 30-40.

DESCRIPTORS: *Cancer, *Sarcoma, Ionization, *Radiation sickness, X-rays, Neoplasms.

Timofeev-Resovskii, N. V.
Timofeeva-Resovskaya, E. A. and others.
AKKUMULATIONS-KOEFFIZIENTEN FUR SUSSWASSERORGANISMEN VON RADIOAKTIVEN ISOTOPEN 16 VERSCHIEDENER ELEMENTE UND DER EINFLUSS VON KOMPLEXON E D T A AUF EINIGE VON IHNEN. (Accumulation Coefficients for Freshwater Organisms of Radioactive Isotopes of 16 Different Elements and the Influence of Complexon EDTA on Some of Them). 5p. (text in German).
Order from TIB $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 132 [no. 5] p. 1191-1194.

DESCRIPTORS: *Radioactive isotopes, *Aquatic animals.

Zol'nikova, N. I., Pereslegin, I. A. and others.
SOME HYGIENIC PROBLEMS IN DESIGNING RADIATION THERAPY DEPARTMENTS. 9 Apr 62 [7]p. 1 ref. JPRS: 13372.
Order from OTS or SLA $1.10 62-23815

Trans. of Gigiena i Sanitariya (USSR) 1961, v. 26, no. 12, p. 18-21.

DESCRIPTORS: *Public health, *Radiation effects, Therapy, Inhibition.

Surgery

Karagyulyan, R. G.
MODERN SURGICAL METHODS IN TREATING CHRONIC CORONARY INSUFFICIENCY: REVIEW OF FOREIGN AND SOVIET LITERATURE (Sovremennye Metody Khirurgicheskogo Lecheniya Khronicheskoi Koronardnoi Nedostatochnosti) tr. by B. Haigh. [1962] 22p. (2 figs. omitted) 59 refs. NIH no. 215.
Order from OTS or SLA $2.60 62-23531

Trans. of Khirurgiya (USSR) 1956, v. 32, no. 8, p. 80-86.

DESCRIPTORS: *Surgery, *Heart, *Blood circulation.

Lidskii, A. T. [Shelomova, T. P., and Shulutko, M. L.].
SOME PROBLEMS OF LUNG SURGERY. [1962] 31p. 32 refs. [NIH] no. 181.
Order from OTS or SLA $3.60 62-23519

Trans. of Vest[nik] Khir[urgii] (USSR) 1957, v. 79 [no. 9] p. 110-120.

DESCRIPTORS: *Lungs, *Surgery, Excision, Tuberculosis, Suppurative infections, Adhesions (Medical), Bibliography.

Rakov, A. I.
SURGICAL TREATMENT OF CANCER OF THE LUNG (Khirurgicheskoe Lechenie Raka Legkogo). [1961] 16p. [NIH] no. 124.
Order from OTS or SLA $1.60 62-15114

Trans. of Sovremennye Problemy Onkologii (USSR) 1955, v. 7 [no. 5] p. 3-9.

DESCRIPTORS: *Surgery, *Cancer, *Lungs, Excision.

CHEMISTRY

BIOGRAPHIES OF VARIOUS AZERBAIDZHAN CHEMISTS. 2 Feb 62 [5]p. JPRS-12338.
Order from OTS or SLA $1.10 62-15776

Trans. of Aziya i Afrika [Segodnya] (USSR) 1961, no. 9, p. 20-21.

Consists of short biographical sketches of S. Guseinov, M. F. Nagiev, A. M. Kuliev, K. Mamedov.

DESCRIPTORS: *Chemists, Professional personnel, Scientific personnel, Chemical industry, Chemical engineering, Chemistry.

[TRANSACTIONS (REPORTS) OF THE ACADEMY OF SCIENCES OF THE USSR] 1941, VOL. 32, NO. 5: [TABLE OF CONTENTS AND SELECTED ABSTRACTS IN THE FIELD OF PETROLEUM LITERATURE] [1962] 2p.
Order from OTS or SLA $1.10 62-14623

Abstract trans. of [Akademiya Nauk SSSR]. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U.R.S.S., 1941, v. 32, no. 5, p. 327-329, 347-350.

DESCRIPTORS: *Hydrogen compounds, Peroxides, *Adsorption, Acids, *Charcoal, *Stability, *Thiosulfates, Isomeric transitions, Platinum compounds, Molecules, Abstracting.

Contents:
Hydrogen peroxide formation on adsorption of acids by activated charcoal, by R. Burshtein and A. Frumkin
Coordination tenacity of unsaturated molecules, by A. Gel'man.

[TRANSACTIONS (REPORTS) OF THE ACADEMY OF SCIENCES OF THE USSR] 1945, VOL. 47, NO. 3: [TABLE OF CONTENTS AND SELECTED ABSTRACTS]. [1962] 2p. 3 refs.
Order from OTS or SLA $1.10 62-10785

Abstract trans. of [Akademiya Nauk SSSR]. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U.R.S.S., 1945, v. 47, no. 3, p. 185-189 and 197-201.

DESCRIPTORS: Abstracting, *Particles, *Fuels, *Combustion, Colorimetry, *Cyclopentadiene, Explosives, Decomposition, Pressure, *Gases, Mixtures, Gas flow, Velocity.

Contents:
Thermal regime of semicoking, burning and gasification of particles in a solid fuel, II, by Z. F. Chukhanov
Explosive decomposition of cyclopentadiene under high pressure, by L. F. Vereshchagin and A. M. Polyakova
Determination of the flow velocity of the detonation products of some gaseous mixtures, by L. D. Landau and K. P. Stanyukovich.

Filippov, A. A. and Faingol'd, I. S.
VERFAHREN ZUR VERBESSERUNG DES AMMONIUMSULFATS, INSBESONDERE SEINER FÄRBUNG UND KORNGRÖSSE. (A Method to Ameliorate Ammonium Sulfate, Especially its Coloration and Grain Size). 5p. (text in German).
Order from T. I. B. $1.55

Trans. of Koks i Khimiya (USSR) 1961, no. 3, p. 42-44

DESCRIPTORS: *Ammonium radicals, *Sulfates, Colors, Grains.

Grinberg, A. A.
AN INTRODUCTION TO THE CHEMISTRY OF COMPLEX COMPOUNDS, 2D ED, tr. by J. Rovtar Leach. 1962, 363p. approx 310 refs.
Order from Addison-Wesley Publishing Co., Inc., Reading, Mass.

Trans. of mono. [Vvedenie v Khimiyu Kompleksnykh Soedinenii, 2d ed, n.p., 1951 [464p.].

DESCRIPTORS: *Complex compounds, Theory, *Ammino compounds, Valence, Ions, Substitution reactions, *Stereochemistry, *Molecular isomerism, Molecular rotation, Molecular structure, Platinum compounds, *Hydrates, Electrostatics, Polarization, Halides, Chemical bonds, *Acid-base equilibrium, *Oxidation-reduction reactions, Solutions, *Polymers, Nuclei, Acids.

Larina, N. K. and Kassatotskin, V. I.
UNTERSUCHUNG DER KINETIK UND DES OXYDATIONSMECHANISMUS FOSSILER KOHLEN. (Examination of the Kinetics and the Oxidation Mechanism of Petrified Carbon). 15p. (text in German).
Order from T.I.B. $1.85

Trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1960, v. 14, p. 98-107.

DESCRIPTORS: *Oxidation, *Carbon.

Lavruchina, A. K., Kolesov, G. M., and Tan Hsiao-ên.
ELEKTROLYTISCHE TRENNUNG BESTRAHLTEN SAMARIUMS VON ANDEREN RADIOAKTIVEN SELTEN ERDEN AN DER QUECKSILBERKATHODE. (Electrolytic Separation of Irradiated Samarium of other Radioactive Rare Earths at the Mercury Cathode) 15 p. (text in German).
Order from T.I.B. $1.85

Trans. of Radiokhimiya (USSR) 1961, v. 3, no. 6, p. 724-731.

DESCRIPTORS: *Electrolysis, *Rare earths.

Lossev, B. I., Lidina, N. G. and Elpiner, I.I.
OXYDATION DER HUMINSÄUREN UND FOSSILEN KOHLEN DURCH ULTRASCHALLWELLEN. (Oxidation of Humic Acids and Petrified Coals by Ultrasonic Waves). 6p. (text in German).
Order from T.I.B. $1.55

Trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1960, v. 14, p. 147-150.

DESCRIPTORS: Oxidation, *Acids, *Coal, *Ultrasonics.

Pyriki, C. and Philipp, W.
VOLATILIZATION OF NICOTINE FROM TOBACCO BY HEAT TREATMENT. [1962] 13p.
Order from K-H $16.25 K-H 6146-c

Trans. of Inst[itut für] Tabakforschung. Ber[ichte] (East Germany) 1956, v. 3, no. 2, p. 77-87.

DESCRIPTORS: *Tobacco, Heat treatment, *Nicotine, Vaporization.

Smirnov, R. N.
ÜBER DIE DOPPELTE REAKTIONSFÄHIGKEIT DER OXYDIERTEN STEINKOHLE. (On the Double Reactivity of Oxidized Bituminous Coal). 18p. (text in German).
Order from T.I.B. $1.85

Trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy 1960, v. 14, p. 123-135.

DESCRIPTORS: *Coal, *Oxidation-reduction reactions

Verba, M. I. and Leonchik, B. I.
NEUE ZERSTÄUBUNGSMETHODE ZUR TROCKNUNG VON LÖSUNGEN. (New Spraying Method for Drying of Solutions). 8p. (text in German).
Order from T.I.B. $1.55

Trans. of Promyshlennaya Energetika (USSR) 1961, v. 16, no. 6, p. 4-7.

DESCRIPTORS: *Spray driers, *Solutions.

Vol'fkovich, S. I.
INSTITUTES AND LABORATORIES OF THE DEPARTMENT OF CHEMISTRY, ACADEMY OF SCIENCES U. S. S. R. [1962] 3p.
Order from OTS or SLA $1.10 62-14144

[Condensed] trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1945, p. 394-408.

DESCRIPTORS: *Scientific organizations, *Laboratories, Chemistry, Electrochemistry, Physical chemistry.

Voznesenskii, S. A., Pushkarev, V. V. and Bagretsov, V. F.
ADSORPTION RADIOAKTIVER ISOTOPE AN ALUMINIUMHYDROXYDEN. (Adsorption of Radioactive Isotopes on the Aluminium Hydroxides). 9p. (text in German).
Order from T.I.B. $1.55

Trans. of Zhurnal Neorganicheskoi Khimii (USSR) 1958, v. 3, no. 1, p. 235-239.

DESCRIPTORS: *Radioactive isotopes, *Adsorption, *Aluminum compounds.

Analytical Chemistry

Akhrem, A. A. and Kuznetsova, A. I.
THE EMPOLYMENT OF THIN-LAYER CHROMATOGRAPHY. [1962] [7]p. 11 refs.
Order from OTS or SLA $1.10 62-25674

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 138, no. 3, p. 591-594.

DESCRIPTORS: *Steroids, Separation, *Chromatographic analysis, Sulfuric acid.

Two examples of separation of epimeric steroid oxides are cited.

Asukhodrovskaya, K. and Lakomskaya, G. V.
DIE BEDEUTUNG DER AZIDITÄT DER KOHLEN BEI DER BESTIMMUNG DES GEHALTS DER SUPEROXYD-VERBINDUNGEN. (The Importance of the Acidity of Coal for the Determination of the Peroxyd-contents). 6p. (text in German).
Order from T.I.B. $1.55

Trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1960, v. 14, p. 87-90.

DESCRIPTORS: Acids, *Coal, *Peroxides, Chemical analysis.

Böthin, T. and others.
VOLUMETRIC METHOD FOR THE DETERMINATION OF ZIRCONIUM. July 62, 1500 words.
Order from HB $3.90 HB-5576

Trans. of Chemische Technik (East Germany) 1961, v. 13, no. 5, p. 306-307.

DESCRIPTORS: *Zirconium, Silicates, *Volumetric analysis, Titration.

Cuzin, J. L. and others.
THE SMOKING MACHINES OF THE S. E. I. T. A. LABS. [1962] 13p.
Order from K-H $16.25 K-H 11455-b

Trans. of mono. Internat[ional] Sci[entific] Tob[acco] Cong[ress] (no. 2) Brussels [8-15 June 58. Proceedings] p. 513-520.

DESCRIPTORS: Cigarettes, *Tobacco, Smokes, Machines.

Durandeaux, Jan M.
PROCESS FOR NEUTRALIZING UNDESIRABLE PRODUCTS FROM THE COMBUSTION OF CIGARETTES AND METHODS FOR USING THIS PROCESS. [1962].
Order from K-H $8.75 K-H 10929a

Trans. of French patent 1,131,423 a 24 d, Gr. 20.-C1. 2 [pub. 1957].

DESCRIPTORS: *Cigarettes, *Smokes, Combustion, *Toxicity, Neutralization, Processing.

Kapetanovic, A. and Slijepcevic, Z.
COMPARATIVE EXAMINATION INTO CHEMICAL COMPOSITION OF TOBACCO AND ITS SMOKE. [1962] 15p.
Order from K-H $18.75 K-H 6769-b

Trans. of Duvan (Yugoslavia) 1957 [v. 7] no. 5, p. 159-167.

DESCRIPTORS: *Tobacco, *Smokes, Cigarettes, *Chemical analysis.

Kirillov, P. L. and others
REINIGUNG DES NATRIUMS VON OXYDEN SOWIE IHRE GEHALTSBESTIMMUNG. (Separation of Sodium of Oxides as well as their Quantitative Analysis). (text in German).
Order from T.I.B. $1.40

Trans. of Atomnaya Energiya (USSR) 1960, v. 8, no. 1, p. 30.

DESCRIPTORS: *Purification, *Sodium, Oxides, Quantitative analysis.

Klopfer, Albert.
ALBERT KLOPFER FILTER TESTING INSTRUMENT FOR CIGARETTES (2 LETTERS). [1962] 8p.
Order from K-H $10.00 K-H 3065 (a-b)

Trans. of articles from an unidentified source, n. d.

DESCRIPTORS: *Cigarettes, Porous filters, Test equipment.

Kobata, Jiro, Shinohara, Takuo and others.
ON THE CHEMICAL CONSTITUENTS OF JAPANESE TOBACCO LEAVES. [1962] 10p.
Order from K-H $12.50 K-H 6063 a

Trans. of article from an unidentified source, n. d.

DESCRIPTORS: *Tobacco, *Plants, Chemical analysis, Japan.

Kozu, Tokuichiro.
QUANTITATIVE MICROANALYSIS OF NICOTINE BY THE NEPHELOMETER AND ITS APPLICATION. [1962] 13p.
Order from K-H $16.25 K-H 5176 b

Trans. of unidentified mono. (thesis) Bachelor of Agriculture, n.p., 20 July 31.

DESCRIPTORS: *Nicotine, *Microanalysis, Photometers, Quantitative analysis.

Kuffner, Friedrich and Schick, Karl.
PAPER CHROMATOGRAPHY OF TOBACCO ALKALOIDS, ESPECIALLY USING THE PICRATES AND SIMILAR DERIVATIVES. [1962] 16p.
Order from K-H $20.00 K-H 3504-b

Trans. of Fachl[iche] Mitt[eilungen der] Österreichischen Tabakregie (Austria) 1954, no. 2, p. 1-7.

DESCRIPTORS: *Paper chromatography, *Tobacco, *Alkaloids.

Luis, Policarpo.
SENSITIVE AND SPECIFIC TESTS FOR NICOTINE. [1962] 14p.
Order from K-H $17.50 K-H 3225-f

Trans. of Monitor de la Farmacia y de la Terapeutica (Spain) 1954, v. 60, p. 161-166.

DESCRIPTORS: Tests, *Nicotine.

Manita, M. D.
DIE BESTIMMUNG VON NAPHTHALIN IN DER LUFT VON RÄUMEN MIT EINER SPEKTROPHOTOMETRISCHEN METHODE. (Determination of Naphthalene in the Air of Rooms by a Spectrophotometric Method). 5p. (text in German).
Order from T.I.B. $1.40

Trans. of Gigiena i Sanitariya (USSR) 1961, v. 26, no. 5, p. 47-50.

DESCRIPTORS: *Naphthalenes, *Spectrophotometers, Air, Chemical analysis.

Marchenko, P. V.
DIE BESTIMMUNG VON BOR IN METALLISCHEM TITAN UND ZIRKON. (Determination of Borons in Metallic Titanium and Zirconium). 3p. (text in German).
Order from T.I.B. $1.40

Trans. of Zavodskaya Laboratoriya (USSR) 1961, v. 27, no. 7, p. 801-802.

DESCRIPTORS: *Boron, *Titanium, *Zirconium, Chemical analysis

Merker, Josef and Pyriki, Constantin.
SOME FACTORS WHICH DETERMINE THE AMOUNT OF ALKALOID CONTENT OF NICOTIANA TABACUM L. [1962].
Order from K-H $20.00 K-H 10969-b

Trans. of Institut für Tabakforschung. Berichte (East Germany) 1960, v.7, no. 2, p. 187-197.

DESCRIPTORS: *Tobacco, *Alkaloids, Plants.

Michl, H. and Kuhn, H.
THE FREE AMINO ACIDS IN TOBACCO. [1962] 6p.
Order from K-H $7.50 K-H 3449-b

Trans. of Fachl[iche] Mitt[eilungen] der Osterr[eichischen] Tabakregie (Austria) 1954, no. 1, p. 10-13.

DESCRIPTORS: *Amino acids, *Tobacco.

Michl, H. and Kuhn, H.
THE FREE PURINES OCCURING IN SEVERAL COMMERCIAL BRANDS OF TOBACCO. [1962] 5p.
Order from K-H $6.25 K-H 3449-c

Trans. of Fachl[iche] Mitt[eilungen der] Osterr[eichischen] Tabakregie (Austria) 1954, no. 1, p. 14-16.

DESCRIPTORS: *Purines, *Tobacco.

Mikhailov, M[ikhail] K.
IDENTIFICATION OF KAEMPFEROL IN TOBACCO [Identifikatsiya Kempferola v Tabake]. [1962] 5p.
Order from K-H $6.25 K-H 8945-c

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1958, v. 122, no. 6, p. 1068-1070.

DESCRIPTORS: Identification, *Flavones, Rutin, Quercetin, *Glucosides, *Tobacco.

Mikhailov, M. K.
METHOD FOR DETERMINING FLAVONOIDS IN TOBACCO. [1962] 5p.
Order from K-H $6.25 K-H 9856-a

Trans. of [Bulgarska Akademiya na Naukite. Doklady] 1958. v. 11, no. 6, p. 493-496.

DESCRIPTORS: *Tobacco, Chemical analysis, *Vitamin P.

Mikhailov, M[ikhail] K.
A STUDY OF THE HYDROXY DERIVATIVES OF CINNAMIC ACID IN TOBACCO BY PAPER CHROMATOGRAPHY [Issledovanie Oksiproizvodnykh Korichnoi Kisloty v Tabake Metodom Khromatografii na Bumage]. [1962] 6p.
Order from K-H $7.50 K-H 8945-b

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1958, v. 121, no. 2, p. 330-333.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-23990, CTS-626, Feb 59 [6]p.

DESCRIPTORS: *Tobacco, *Cinnamic acid, Hydroxides, *Paper chromatography.

For abstract see Technical Translations 5: 175, 1961.

Molinari, Emil and Kuhn, Hans.
CHEMICAL DETERMINATION OF THE QUALITY OF TOBACCO AS AN AID TO EXPERT INVESTIGATION. [1962] 23p.
Order from K-H $28.75 K-H 3449-d

Trans. of Fachl[iche] Mitt[eilungen] der Osterr[eichischen] Tabakregie (Austria] 1954, no. 1, p. 1-9.

DESCRIPTORS: *Tobacco, Chemical analysis.

Molinari, Emil.
DETERMINATION OF MOISTURE CONTENT IN GREEN TOBACCO AND IN TOBACCO PRODUCTS. [1962] 13p.
Order from K-H $16.20 K-H 3055-a

Trans. of Fachliche Mitt[eilungen] d[er] Osterr[eichischen] Tabakregie (Austria) 1951, no. 2, p. 1-5.

DESCRIPTORS: *Tobacco, Chemical analysis, *Moisture.

Molinari, Emil and Marek, Joseph.
FERMENTATION AND CHEMICAL PROCESSES OCCURRING DURING STORAGE OF TOBACCO. [1962] 14p.
Order from K-H $17.30 K-H 3084-b

Trans. of Fachliche Mitt[eilungen der] Osterr[eichischen] Tabakregie (Austria) 1952, no. 1, p. 1-6.

DESCRIPTORS: *Fermentation, Chemical reactions, *Tobacco, *Storage.

Molinari, Emil.
ON THE FERMENTATION AND CHEMICAL PROCESSES DURING THE STORAGE OF TOBACCO. [1962] 12p.
Order from K-H $15.00 K-H 3236-b

Trans. of Fachl[iche] Mitt[eilungen der] Osterr[eichischen] Tabakregie (Austria) 1951, no. 2, p. 21-25.

DESCRIPTORS: *Fermentation, Chemical reactions, *Tobacco, *Storage.

Oshima, Y., Nakabayashi, T., and Hada, N.
A CLASSIFICATION OF TANNINS BY THE METHOD OF PAPER CHROMATOGRAPHY [AND] TREHALOSE AND YEAST. Pts. 2-3 of Paper Chromatograph of Tannins. [1962] 19p.
Order from K-H $23.75 K-H 3580-d

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1954, v. 28, p. 621-629.

DESCRIPTORS: *Tannic acids, Classification, Saccharides, *Yeasts, *Paper chromatography.

Oshima, Y. Nakabayashi, T., and Hada, N.
STUDIES OF SEVERAL FACTORS IN THE PAPER CHROMATOGRAPHY OF TANNINS. Pt. 1 of Paper Chromatorgraph of Tannins. [1962] 10p.
Order from K-H $12.50 K-H 3580-c

Trans. of [Nihon Nogei-Kagakkai Shi] (Japan) 1954, v. 28, p. 618-621.

DESCRIPTORS: *Tannic acids, *Paper chromatography

Päffgen, Josef.
PROCESS FOR THE SEPARATION OF THE POISONOUS CONSTITUENTS FROM THE TOBACCO SMOKE. [1962].
Order from K-H $2.50 K-H 10860b

Trans. of German patent 549413 [1932].

DESCRIPTORS: *Tobacco, *Smokes, Cigarettes, *Toxicity, Separation.

Philipp, Wolfgang.
A METHOD FOR THE DETERMINATION OF THE SPECIFIC GRAVITY AND OTHER PHYSICAL PROPERTIES OF TOBACCO. [1962] 11p.
Order from K-H $13.75 K-H 6146-f

Trans. of Inst[itut für] Tabakforsch[ung]. Ber[ichte] (East Germany) 1955, v. 2, no. 1, p. 112-119.

DESCRIPTORS: *Tobacco, Physical properties, Densitv.

Platek, Jerzy.
NICOTINE IN CIGARETTES AND OTHER HOME-GROWN TOBACCOS PRODUCED IN 1957. [1962] 14p.
Order from K-H $17.50 K-H-11085-g

Trans. of Roc[zniki] Nauk Roln[iczych. Seria A: Roslinna] (Poland) 1960, v. 81, no. 4, p. 1109-1117.

DESCRIPTORS: *Nicotine, *Cigarettes, *Tobacco.

Puschmann, H. and Miller, J. E.
DETERMINATION OF HUMECTANTS IN TOBACCO PRODUCTS. [1962] 9p.
Order from K-H $11.25 K-H 11071-e

Trans. of Zeit[schrift] fur Lebensmittel-Untersuchung und -Forschung (West Germany) 1961, v. 114, no. 4, p. 298-301.

DESCRIPTORS: *Tobacco, Chemical properties.

Pyriki, C.
CANCEROGENIC SUBSTANCES IN TOBACCO SMOKE AND THE POSSIBILITY OF REDUCING THEIR QUANTITY. [1962] 15p.
Order from K-H $18.75 K-H 11411-h

Trans. of Pharmazeutische Zentralhalle [für Deutschland] (East Germany) 1961, v. 100, p. 213-221.

DESCRIPTORS: *Cancer, Cigarettes, Smokes, *Tobacco, Reduction.

Pyriki, C. and Kunstmann, F. W.
CONTRIBUTION TO THE QUANTITATIVE DETERMINATION OF ORGANIC ACIDS IN TOBACCO. [1962] 20p.
Order from K-H $25.00 K-H 6146-b

Trans. of Inst[itut für] Tabakforsch[ung]. Ber[ichte] (East Germany) 1956, v. 3, no. 1, p. 60-76.

DESCRIPTORS: *Tobacco, Organic acids, Determination, Quantitative analysis.

Pyriki, C.
METHODS FOR THE EXAMINATION OF CIGARET PAPER. [1962] 11p.
Order from K-H $13.75 K-H 3236-c

Trans. of Chemische Technik (East Germany) 1953, v. 5, no. 8, p. 442-444.

DESCRIPTORS: *Cigarettes, *Paper, Analysis.

Pyriki, Constantin and Richter, Konrad.
NICOTINE TRANSFER DURING STEAM DISTILLATION OF TOBACCO USING VARIOUS ALKALIZATION AGENTS WITH SPECIAL REFERENCE TO OXYNICOTINE. [1962] 34p.
Order from K-H $42.50 K-H-10281-g

Trans. of Institut für Tabakforschung. Berichte (East Germany) 1959, v. 6, no. 2, p. 241-264.

DESCRIPTORS: *Tobacco, *Nicotine, Oxygen compounds, Alkaloids, Steam, Distilling plants.

Rochus, W.
FUNDAMENTAL CONSIDERATIONS OF THE CHEMICAL COMPOSITION OF TOBACCO SMOKE AND ITS DEPOSITION PRODUCTS. [1962] 20p.
Order from K-H $25.50 K-H-11816-b

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 5, p. 155-163.

DESCRIPTORS: *Tobacco, *Smokes, Chemical properties, Deposits.

Rochus, W.
A NEW MECHANIZED SMOKING AND SMOKE-DECOMPOSITION DEVICE FOR THE RECOVERY OF "NATIVE" TOBACCO TAR. [1962] 8p.
Order from K-H $10.00 K-H-11816-c

Trans. of Beitrage zur Tabakforschung [sic] 1962, no. 5, p. 165-169.

DESCRIPTORS: *Tobacco, Coal tar, *Smokes, Decomposition, Machines, Laboratory equipment.

Safronkova, N. N. and Lyalikov, Yu. S.
CHEMISCHE ANALYSE HALBLEITENDER LEGIERUNGEN DES SYSTEMS In-Sb-Te. (Chemical Analysis of Semiconducting Alloys of the System In-Sb-Te). (text in German).
Order from T. I. B. $1.40

Trans. of Zavodskaya Laboratoriya (USSR) 1961, v. 27 [no. 1] p. 21-22.

DESCRIPTORS: *Chemical analysis, Semiconductors, *Iridium alloys, *Antimony alloys, Tellurium alloys.

Schulek, E., Burger, K., and Feher, M.
HYDROLYSIS AND ANALYTICAL CONTROL OF NITRIC ACID ESTERS (NITRO-BODIES). 9 Jan 61 [8]p. 3 refs. JPRS: 4320.
Order from OTS or SLA $1.10 62-24559

Trans. of Zeitschrift für Analytische Chemie (West Germany) 1960, v. 177, no. 2, p. 81-86.

DESCRIPTORS: *Nitric acid, *Esters, Hydrolysis, Chemical analysis, Ammonia, Cyanides, Nitrites, Nitrates.

By using previously published methods the authors determined the ammonia, cyanide, nitrite, and nitrate contents in alkaline hydrolysates of several nitric acid esters (glycerol trinitrate, pentaerythritol tetranitrate, "nitrostarch," and "nitrocellulose") prepared under identical conditions, and calculated the alternating ratios of nitrate and nitrite nitrogen in these hydrolysates. The mean values of these ratios were 1:0.83 for pentaerythritol tetranitrate, 1:2.14 for glycerol trinitrate and nitrostarch, and 1:1.46 for nitrocellulose. In contrast to the other tested "nitro-bodies," it was not possible to find cyanide in the hydrolysate of pentaerythritol tetranitrate. The results of analyses are suited for characterization of "nitro-bodies." (Author)

Shokhnovskii, L. N.
CHEMICAL COMPOSITION OF SMOKE OF SMOKING PRODUCTS OF DIFFERENT GRADES. [1962] 9p.
Order from K-H $11.25 K-H 10997-b

Trans. of Tabak (USSR) 1960, v. 21, no. 4, p. 117-120.

DESCRIPTORS: *Chemical analysis, *Smokes, Cigarettes, *Tobacco

Szekeres, Ladislaus.
A RAPID METHOD FOR THE DETERMINATION OF SULFIDE, POLYSULFIDE, AND THIOSULFATE IONS TOGETHER (Eine Schnellmethode zur Bestimmung der Sulfid, Polysufid-und Thiosulfationen Nebeneinander). [1961] [9]p. (foreign text included) 10 refs.
Order from SLA $1.10 62-10669

Trans. of Zeitschrift für Analytische Chemie (West Germany) 1960, v. 178, no. 2, p. 81-84.

DESCRIPTORS: *Sulfides, *Thiosulfates, Ions, Alkali metal compounds, Chemical analysis, Titration, *Detection (Chemical)

A process is described for the analysis of alkali sulfide solutions containing polysulfide and thiosulfate. In addition, four equally large aliquot portions of the test solution were removed. Two parts of them were directly oxidized with iodine or bromine. With respect to the other two portions, first the sulfide sulfur was expelled by boiling with boric acid in the presence of potassium cyanide, as hydrogen peroxide. Then either the iodine or bromine consumption was determined. The contents in sulfide, thiosulfate, and polysulfide can be calculated from the results of the four titrations by means of four simple equations which also take into consideration the fact that during the boiling with boric acid-potassium cyanide thiosulfate ions are converted to a slight extent into thiocyanate by reciprocal action with hydrogen sulfide ions. (Author)

Trifu, I. S. and Dumitrescu, M.
THE TAR CONTENT OF TOBACCO MAIN STREAM SMOKE. [1962] 7p.
Order from K-H $8.75 K-H 8890

Trans. from mono. International Scientific Tobacco Congress (no. 2) Brussels, 8-15 June 58. [Proceedings].

DESCRIPTORS: *Tobacco, Cigarettes, Smokes.

Trillat, Jean-Jacques, Cuzin, Jean, and Barbezat, Suzanne.
THE PRESENCE OF PARAFFINS IN TOBACCO. [1962] 6p.
Order from K-H $7.50 K-H 11170-a

Trans. of Acad[emie] Nat[ionale de] Méd[ecine] Par[is]. Bull[etin] (France) 1961 [ser. 3] v. 145, p. 197-201.

DESCRIPTORS: *Tobacco, *Methanes.

Tsonev, L. K.
CHANGES OF ESSENTIAL OILS AND RESINS IN THE TOBACCO DRYING PROCESS. [1962] 6p. 25 refs.
Order from OTS or SLA $1.10 62-16516

Trans. of Izv[estiya] Vys[shikh] Ucheb[nykh] Zav[edenii]. Pishch[evaya]Tekh[nologiya] (USSR) 1961, no. 4, p. 58-61.

DESCRIPTORS: *Tobacco, Dehydration, Oils, Resins, Chemical analysis, *Smokes.

The amounts of essential oils and resins in tobaccos dried by various methods were determined. Fractional composition of the resins was investigated. The amount of ethereal oils and resins increases and the quality of the resins improves with increasing time of drying of tobacco. (Author)

Vinogradov, A. P. and Ryabchikov, D. I., eds.
DETECTION AND ANALYSIS OF RARE ELEMENTS tr. by A. J. Aladjem and others. 1962, 744p. refs. PL-480 Comm.
Order from OTS $7.50 62-11021

Trans. of mono. Metody Opredelniya i Analiza Redikh Elementov, Moscow, 1961.

DESCRIPTORS: Chemical elements, Detection (Chemical), Chemical analysis, Purification, *Metallurgy, *Semiconductors, *Germanium, Silicon, Quartz, Graphite, Reagents, *Lithium, *Rubidium, *Cesium, Ores, *Beryllium, *Strontium, *Rare earth elements, *Scandium, *Yttrium, *Thallium, *Gallium, *Titanium, *Zirconium, *Hafnium, *Thorium, *Vanadium, *Tantalum, *Niobium, *Molybdenum, *Selenium, *Tellurium, *Rhenium.

Contents:
The problem of purity, by A. P. Vinogradov
The requirements of industry with regard to the quality of high-purity metals and of materials for the semiconductor technology, by N. P. Sazhin
The present state of the analytical chemistry of lithium, rubidium, and cesium, by N. S. Poluektov and V. T. Mishchenko
The present state of the analytical chemistry of beryllium, by V. G. Goryushina
The present state of the analytical chemistry of strontium, by N. S. Poluektov and V. T. Mishchenko
The present state of the analytical chemistry of rare-earth elements, scandium, and yttrium, by D. I. Ryabchikov and V. A. Ryabukhin
The present state of the analytical chemistry of thallium, by A. I. Busev and V. G. Toptsova
The present state of the analytical chemistry of gallium, by A. I. Busev and L. M. Skrebkova
The present state of the analytical chemistry of titanium, by B. N. Melent'ev and A. I. Ponomarev
The present state of the analytical chemistry of zirconium and hafnium, by S. V. Elinson
The present state of the analytical chemistry of thorium, by D. I. Ryabchikov and E. K. Korchemnaya
The present state of the analytical chemistry of germanium, by V. A. Nazarenko
The present state of the analytical chemistry of tantalum and niobium, by I. P. Alimarin and G. N. Bilimovich
The present state of the analytical chemistry of molybdenum, by A. I. Busev
The present state of the analytical chemistry of selenium and tellurium, by M. I. Troitskaya
The present state of the analytical chemistry of rhenium, by D. I. Ryabchikov and Yu. B. Gerlit.

Vol'kenshtein, M. V., Shorygin, P. P., and Shomova, N. N.
ANALYSIS OF GASOLINES BY THE METHOD OF RAMAN SPECTRA. [1962] 4p. 17 refs.
Order from OTS or SLA $1.10 62-14149

Trans. of Zavodskaya Laboratoriya (USSR) 1940, v. 9, no. 8, p. 860-864.
#Another trans. is available from OTS or SLA $1.10 as 61-20362 [1961] [4]p.

DESCRIPTORS: *Gasoline, *Raman spectroscopy, *Hydrocarbons, Spectrographic analysis.

Wada, Einosuke and Kobashi, Yusuke.
DETERMINATION OF ORGANIC ACIDS IN TOBACCO LEAVES AND ISOLATION OF ORGANIC ACIDS PAPER CHROMATOGRAPHY. Pt. 4 of Chemical Constituents of Tobacco. [1962] 11p.
Order from K-H $13.75 K-H 5575 c

Trans. of article from an unidentified source, n.d.

DESCRIPTORS: *Plants, *Tobacco, *Organic acids, *Paper chromatography.

Waltz, P., Hausermann, M., and Nyari, E.
EXPERIENCES WITH A MACHINE FOR THE SIMULTANEOUS SMOKING OF SEVERAL CIGARETTES. [1962] 17p.
Order from K-H $21.25 K-H 11411 (5)

Trans. of Beiträge zur Tabakforschung [sic] 1961, no. 3, p. 83-91.

DESCRIPTORS: *Cigarettes, Smokes, Machines.

Williamson, J. T. and Clark, P. J.
A NEW AUTOMATIC SMOKING MACHINE WITH ADJUSTMENT TO THE MOST VARIED SMOKING CONDITIONS. [1962] 8p.
Order from K-H $10.00 K-H-11816-g

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 5, p. 187-191.

DESCRIPTORS: *Tobacco, *Smokes, Machines, Laboratory equipment, Automatic.

Zahn, H. and Wurz, A.
QUANTITATIVE DETERMINATION OF PHENOLS WITH 2, 4-DINITROFLUOROBENZENE. [1962] 9p.
Order from K-H $11.25 K-H 3138-g

Trans. of Z[eitschrift f'ür] Anal[ytische] Chem[ie] (West Germany) 1951, v. 134, p. 183-187.

DESCRIPTORS: *Quantitative analysis, Determination, *Phenols, Nitrobenzenes, Fluorides.

Inorganic Chemistry

Pischinger, Ernest and Tomaszewski, Jerzy.
SODIUM SESQUICARBONATE. III. FACTORS AFFECTING THE SIZE OF THE CRYSTALS AND THE YIELD OF CRYSTALLIZATION (Seskwiweglan Sodowy. III. Czynniki Wplywajace na Wielkoso Krysztalow i Wydajnosc Krystalizacji). [1961] 8p. (3 figs. 2 tables omitted).
Order from SLA $1.10 62-14091

Trans. of Przemysl Chemiczny (Poland) 1958, v. [14](37) p. 468-469.

DESCRIPTORS: *Sodium compounds, *Carbonates, *Crystals, *Crystallization.

(See also 62-14090)

Pischinger, Ernest and Tomaszewski, Jerzy.
SODIUM SESQUICARBONATE. IV. PRODUCTION METHODS (Seskwiweglan Sodowy. IV. Metody Produkcji). [1961] 23p. (4 figs. 5 tables omitted).
Order from SLA $2.60 62-14092

Trans. of Przemysl Chemiczny (Poland) 1958, v. [14](37), p. 525-529.

DESCRIPTORS: *Sodium compounds, *Carbonates, Production, *Crystallization, Manufacturing methods.

Tests of crystallization of sodium sesquicarbonate by cooling the solution were conducted in the Zahn apparatus, both on a laboratory and on a semi-industrial scale. Furthermore, tests of sesquicarbonate crystallization by evaporating the solution under reduced pressure were also carried out on a laboratory scale. The industrial economic factors of both of these methods were compared. (Author) (See also 62-14091)

Samuseva, R. G. and Plyushchev, V. E.
FUSIBILITY OF HALIDES OF CESIUM AND SODIUM IN BINARY SYSTEMS. 16 Jan 62 [9]p. 3 refs.
FTD-TT-61-234, AD-270 784.
Order from OTS or SLA $1.10 62-23371

Unedited rough draft trans. of #Zhurnal Neorganicheskoi Khimii (USSR) 1961, v. 6, no. 9, p. 2139-2141.

DESCRIPTORS: *Cesium compounds, *Sodium compounds, *Halides, Fuzed materials, *Eutectics, *Alkali metal compounds, Heat of fusion, Thermochemistry, Mixtures.

The fusibility of binary systems formed by the halides of sodium and cesium was studied by thermal analysis. All systems NaHal-CsHal have eutectics. The eutectic points found experimentally and graphically correspond in the system: NaCl—34.5 mol. % NaCl and 490°. NaBr-CsBr—37.5 mol. % NaBr and 460°; NaI-CsI—45 mol. % NaI and 435°; NaF-CsF—20 mol. % NaF and 615°. (Author)

Seel, F. and Massat, H.
NITROSOSULFURYL FLUORIDE. [1962] 2p.
Order from SLA $1.10 62-16640

Abstract trans. of Z[eitschrift für] Anorg[anische] Chem[ie] (East Germany) 1955, v. 280, no. 4, p. 186-196.

DESCRIPTORS: *Nitroso radicals, *Sulfonyl radicals, *Fluorides, Chemical reactions.

Organic Chemistry

ORGANIC CHEMICALS: 1. ALCOHOLS, ALDEHYDES, GLYCOLS AND ETHERS. 2. CARBOXYLIC ACIDS. 3. HYDROCARBONS. 4. METAL-ORGANICS. 5. NITROGEN-CONTAINING COMPOUNDS. [1959] 5p.
Order from RIS RIS Bulletin 186

Abstracts of trans. of selected Belgian and German patent literature available including purchase information.

DESCRIPTORS: *Bibliography, Organic compounds, *Alcohols, *Aldehydes, *Glycols, *Ethers, *Carboxylic acids, *Hydrocarbons, *Metalorganic compounds, *Nitrogen compounds.

Andrianov, K. A. and Dabagova, A. K.
SYNTHESE VON SILIZIUMORGANISCHEN VERBINDUNGEN MIT METHACRYLGRUPPEN. (Synthesis of Silicoorganic Compounds Containing Methacryl Groups) 3p. (text in German).
Order from T. I. B. $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 119 [no. 6] p. 1149-1151.
Another trans. is available in English from CB $5.00.

DESCRIPTORS: *Silicon compounds, Silicones, Ethyl radicals, Hydrolysis.

Appel, Rolf and Eisenhauer, Gerhard.
THE REACTION OF DISULFURYL FLUORIDE, $S_2O_5F_2$, WITH AMMONIA AND DIETHYLAMINE (Über die Umsetzung von Disulfurylfluorid, $S_2O_5F_2$, mit Ammoniak und Diaethylamin). 15 Sep 61 [7]p. 7 refs. JPRS: 10179.
Order from OTS or SLA $1.10 62-24556

Trans. of Zeitschrift] f[ür] Anorg[anische] Chem[ie] (East Germany) [1961] v. 310, no. 1/2, p. 90-93.

DESCRIPTORS: *Sulfonyl radicals, *Fluorides, *Ammonia, Ethyl radicals, *Amines, Chemical reactions.

Berlin, A. A., Boguslavskii, L. I. and others.
SOME ELECTROPHYSICAL PROPERTIES OF POLYMER COMPLEXES OF TETRACYANETHYLENE WITH METALS. Oct 61, 3p. 3 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 136, no. 5, p. 1127-1129.
A review trans. available from OTS or SLA $1.10 in 61-19861, AID-61-49, 12 Apr 61, 3p.

DESCRIPTORS: *Polymers, *Plastic films, Ethylenes, *Chelate compounds, *Metals, Electrical properties, Physical properties.

Fischer, E. O. and Hafner, W.
DI-BENZENE CHROMIUM. Pt. 1 on Aromatic Complexes of Metals. [1962] 10p. (1 fig. omitted) 38 refs.
Order from SLA $1.10 62-18067

Trans. of Z[eitschrift für] Naturforschung (West Germany) 1955, v. 10b, no. 12, p. 665-668.
Another trans. is available from SLA $1.10 as 62-10385 [1961] 5p.

DESCRIPTORS: Complex ions, Metallic compounds, *Metalorganic compounds, Transition elements, *Benzenes, *Chromium.

For abstract see Technical Translations 7: 612, 1962.

Furman, M. S., Shestakova, A. D. and others.
OXIDATION OF n-BUTANE IN THE LIQUID PHASE UNDER PRESSURE. Oct 61, 6p. 18 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1961, no. 1, p. 6-11.

DESCRIPTORS: *Butanes, Oxidation, *Acetic acids, Ketones, Acetates.

Istratoyu, R.
POLYMERIZATION OF PROPYLENE IN THE ABSENCE OF A SOLVENT. [1961] [3]p. 3 refs.
Order from OTS or SLA $1.10 62-13990

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, p. 1746.

DESCRIPTORS: *Polymerization, *Propenes.

Kammerer, H. and Lenz, H.
ON LINEAR AND RAMIFIED PHENOL-FORMALDEHYDE CONDENSATES OF KNOWN CONSTITUTION AND UNIFORM MOLECULE SIZE. [1961] 1p.
Order from SLA $1.10 62-10574

Trans. of a German language article from an unidentified source, n.d.

DESCRIPTORS: *Phenols, *Formaldehyde, Condensation, Molecular weight.

Kargin, V. A., Kabanov, V. A. and others.
POLYMERIZATION OF ACETONE. Oct 61, 3p. 8 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 134, no. 5, p. 1098-1099.
Other translations are available from ATS $5.00 as ATS-52N53R [1962] 3p. and OTS or SLA $1.10 as 61-27645, Courtaulds ML-3282, 9 Mar 61, 4p.

DESCRIPTORS: *Polymerization, Crystallization, *Acetones, Thermodynamics.

Kargin, V. A., Mirlina, S. Ya. and others.
STRUCTURE AND PROPERTIES OF ISOTACTIC POLYACRYLIC ACID AND ITS SALTS, tr. by P. Holliday. 18 May 61 [6]p. 2 refs. Courtaulds Misc. Lit. 3307; NLL M 3369.
Order from OTS or SLA $1.10 62-23981

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 135 [no. 4] p. 893-895.

DESCRIPTORS: *Polymers, *Acrylic acids, Salts, Molecular structure, Crystal structure, Chemical properties.

We prepared stereoregular polyelectrolytes - isotactic polyacrylic acid (PAA) and studied the character of the secondary structures, formed by a polyacid and its salts. The isotactic PAA as prepared precipitated from the aqueous liquors in the form of white crystalline powder on the addition of conc. HCl (crystallization shown by X-ray methods). Thermogravimetric analysis of the crystalline isotactic PAA shows that it crystallizes in the form of a hydrate in which there is one molecule of water to two monomer units. (Author)

Kireev, V. A.
MUTUAL SOLUBILITY OF LIQUIDS. [1962] [1]p. 1 ref.
Order from OTS or SLA $1.10 62-14639

[Abstract] trans. of Zhur[nal] Fizi[cheskoi] Khim[ii] (USSR) 1942, v. 16, no. 3/4, p. 136-147.

DESCRIPTORS: *Water, Solubility, *Hydrocarbons, Benzenes, Toluenes, Cyclohexanes, Liquids.

Korneichuk, G. P., Roiter, V. A. and others.
PECULIARITIES OF THE CATALYTIC OXIDATION OF NAPHTHALENE, PT. 2. Oct 61, 6p. 8 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1960, v. 26, no. 4, p. 432-439.
Another trans. is available from ATS $13.40 as ATS-46N53R [1962] 8p.

DESCRIPTORS: *Naphthalenes, Oxidation, Catalysis, *Vanadium catalysts.

Kozlov, P. V., Bakeev, N. F. and others.
STUDIES IN THE SPHERULITE STRUCTURE OF POLYMERS. III. A STUDY OF THE MICROSPHERULITE STRUCTURE OF POLYMERS BY ETCHING. [1962] 9p. 11 refs.
Order from OTS or SLA $1.10 62-18089

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 3, p. 421-426.
Another trans. is available from OTS or SLA mi$2.40, ph$3.30 as 60-18427 [1960] 12p.

DESCRIPTORS: *Polymers, Crystal structure, *Photoengraving.

For abstract see Technical Translations 5: 114, 1961.

Krylov, O. V. and Sinyak, Yu. E.
NEW CATALYSTS FOR THE POLYMERIZATION OF ETHYLENE OXIDE. [1961] [5]p. 10 refs.
Order from OTS or SLA $1.10 62-13832

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3 [no. 6] p. 898-900.
Another trans. is available from ATS $5.50 as ATS-56N54R [1961] 3p.

DESCRIPTORS: *Ethylene oxide, *Polymerization, *Catalysts, Beryllium compounds, Magnesium compounds, Oxides, Hydroxides.

A study was made of the polymerization of ethylene oxide in oxides and hydroxides of the metals in the main subgroup of the second group of the Mendeleyev periodic system. The polymerization process proceeds fastest on $Be(OH)_2$ and $Mg(OH)_2$. The molecular weight is found to increase continuously in the course of the polymerization of C_2H_4O on $Be(OH)_2$.

Kukharenko, T. A. and Vvedenskaya, T. E.
SPLITTING OF HUMIC ACIDS BY METALLIC SODIUM IN LIQUID AMMONIA, tr. by A. L. Biran. [1962] [20]p. 12 refs. NLL M.3599.
Order from OTS or SLA $1.60 62-24665

Trans. of Khimiya i Tekhnologiya Topliv [i Masel] (USSR) 1956 [v. 1] no. 6, p. 25-34.

DESCRIPTORS: *Humic acids, *Sodium, *Ammonia, *Fuels, Coal, Peat, Chemical bonds.

The reaction of humic acids with metallic sodium in liquid ammonia showed that humic acids of hard fuels of different stages of carbonisation, are split by metallic sodium, fairly intensively with the formation of water- and ether-soluble compounds. During the multiple consecutive splitting, humic acids of earthy brown coal are completely decomposed. The results can be considered as proof of the presence in the molecules of humic acids of simple ether-type bonds. The characteristics of the insoluble residues showed that they change only slightly in their composition in comparison with the original humic acids and the changes are mainly towards an increase in the carboxylic acid content and a decrease in the phenolic acid content. This indicates complete splitting of individual molecules of humic acids, while other molecules are not affected by the reagent. The water- and ether-soluble products of the splitting were compounds of different classes of organic bonds and differed also in their solubility in water and ether. The ether-soluble products were mainly mixed phenol carboxylic acids of molecular weight 164 to 280 and also in a smaller part there were phenols.

Kukhtin, V. A., Kamai, G. and Sinchenko, L. A.
DIE TELOMERISIERUNG VON METHACRYLSÄURE MIT TRIALKALPHOSPHITEN. (Telomerisation of Methacrylic Acid with Trialcyl Phosphites). 2p. (text in German).
Order from T. I. B. $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 118, no. 3, p. 505.
Other translations are available from LC or SLA mi$1.80, ph$1.80 as 59-10313 [1958] 5p. and from CB $5.00.

DESCRIPTORS: *Phosphites, Acids, *Aldehydes, Polymerisation.

Kulikov, N. N. and Polyakov, V. E.
POLYMER-GIPS AUF PHENOL-FURFUROL-BASIS. (Polymeric Gypsum on the Phenol-furfurol-basis). 2p. (text in German).
Order from T.I.B. $1.40

Trans. of Stroitel'nye Materialy (USSR) 1960, v. 6, no. 11, p. 22.

DESCRIPTORS: *Gypsum, Phenols, *Polymers.

Moiseev, I. I., Vargaftik, M. N., and Syrkin, Ya. K.
THE MECHANISM OF THE REACTION OF PALLADIUM SALTS WITH OLEFINS IN SOLVENTS CONTAINING HYDROXYL GROUPS, tr. by I. Gawronska. 14 Dec 61 [7]p. 4 refs. Courtaulds Misc. Lit. 3412; NLL M. 3562.
Order from OTS or SLA $1.10 62-24697

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 133 [no. 2] p. 377-380.
Another trans. is available from ATS $7.75 as ATS-83N51R [1961] 5p.

DESCRIPTORS: *Palladium compounds, Chlorides, *Complex compounds, *Ethylenes, Hydroxides, Chemical reactions, Acetals, Vinyl radicals, Synthesis.
The formation of carbonyl compounds in the reaction of olefins with palladium salts in aqueous solutions passes through a stage where a π-complex, such as $[Cl_3PdC_nH_{2n}]^-$ reacts with water according to the equation:

$$Cl_3PdC_nH_{2n}^- + H_2O = Pd + 2HCl + Cl^- + C_nH_{2n}O.$$

During the decomposition of the π-complex a proton is split off from the double bond and the π-complex is converted into an organometallic compound. Experiments showed that $(PdCl_2 \cdot C_2H_4)_2$ reacts rapidly with alcohol. Acetal is the main reaction product. The data indicate that the decomposition of the π-complex

in solvents containing hydroxyl groups occurs through the intermediate stage of a vinyl compound. In the case of water vinyl alcohol is formed, which isomerizes into acetaldehyde; in acetic acid it is vinyl acetate, and in alcohol a simple vinyl ether, which adds on a molecule of alcohol with the formation of an acetal. These results are difficult to explain if it is assumed that the reaction involves the formation of α-oxides.

Otaga, Kazuo and Nagano, Shozaburo.
A METHOD FOR THE RECOVERY OF AROMATIC CARBOXYLIC ACIDS AND ALKALI FROM ALKALINE AROMATIC CARBOXYLIC ACIDS. [1962] 9p.
Order from OTS or SLA $1.10 62-14802

Trans. of published Japanese patent [36]-3977, appl. 28 Dec 57, special appl. 1957/32617, pub. 25 Apr 61, by Teikoku Rayon Co., Ltd.

DESCRIPTORS: *Carboxylic acids, *Alkali metals, Acids, Recovery, *Alkaline earth compounds, Organic acids, Sulfur compounds, Calcium, Barium, Oxides, Hydroxides.

The method is characterized by having liberated alkali obtained by contacting sulfurous acid gas with an aqueous solution of alkali salt of aromatic carboxylic acids to form an aromatic carboxylic acid and simultaneously form sulfite or bisulfite of alkali by contacting oxide or hydroxide of calcium or barium.

Pyriki, Constantin and Moldenhauer, Walter.
INFLUENCING CIGARETTE SMOKE BY PROCESSING TOBACCO WITH VARIOUS AGENTS. [1962].
Order from K-H $48.75 K-H 10969-e

Trans. of Inst[itut für] Tabakforsch[ung]. Ber[ichte] (East Germany) 1960, v. 7, no. 2, p. 216-240.

DESCRIPTORS: *Tobacco, *Cigarettes, Smokes.

Lyubetskii, S. G., Dolgoplosk, B. A., and Erusalimskii, B. L.
POLYMERIZATION OF ETHYLENE UNDER THE INFLUENCE OF FREE RADICALS: KINETICS OF ETHYLENE POLYMERIZATION IN BENZENE AND HEPTANE SOLUTION. Oct 61, 4p. 12 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 5, p. 734-739.

DESCRIPTORS: *Ethylenes, Polymerization, *Free radicals, *Reaction kinetics, *Benzenes, *Heptanes, Nitriles, Pressure.

Pyriki, Constantin and Müller, Rudolf.
ON THE OCCURRENCE OF POLYCYCLIC HYDROCARBONS IN CIGARETTE SMOKE. [1962] 13p.
Order from K-H $15.25 K-H 10281-f

Trans. of Inst[itut für] Tabak[forschung]. Ber[ichte] (East Germany) 1959, v. 6, no. 2, p. 231-240.

DESCRIPTORS: *Cigarettes, Smokes, *Hydrocarbons, *Polycyclic compounds.

Shlyapnikov, Yu. A., Miller, V. B. and others.
THERMO-OXIDATIVE DEGRADATION OF POLYPROPYLENE: A STUDY OF THE COMPARATIVE EFFECTIVENESS OF SOME ANTIOXIDANTS. Oct 61, 3p. 6 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, no. 9, p. 1409-1412.
Another trans. is available from ATS $6.25 as ATS-81N52R [1962] 4p.

DESCRIPTORS: *Polymers, *Propenes, Deterioration, Oxidation, *Antioxidants.

Sokolova, E. B. and Shebanova, M. P.
THE SYNTHESIS OF SOME C_{15}--C_{19} CYCLOHEXANE HEMOLOGS WHICH HAVE INCREASED VOLUMETRIC HEAT OF COMBUSTION. 23 Jan 62 [9]p. 8 refs.
FTD-TT-61-279; AD-270 777.
Order from OTS or SLA $1.10 62-15806

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Khimiya i Khimicheskaya Tekhnologiya (USSR) 1960, v. 3, no. 6, p. 1040-1044.

DESCRIPTORS: *Hydrocarbons, *Cyclohexanes, Heptanes, Octanes, Combustion, Thermodynamics, Specific heat, Synthesis.

Six monoalkylated cyclohexane homologs were synthesized and characterized: 2-methyl-4-ethyl-4-cyclohexylhexane, 2, 2, 5-trimethyl-3-cyclohexylhexane, 2, 2, 4, 6-tetramethyl-4-cyclohexylheptane, 2-methyl-5-cyclohexyloctane, 5-butyl-5-cyclohexylnonane, 2, 6-dimethyl-4-isobutyl-4-cyclohexylheptane, and two branched paraffins: 4, 9-dipropyldodecane and 5, 10-dibutyltetradecane. The density and, therefore, the volumetric heat of combustion of the synthesized naphthenes was approximately 3% higher than for their analogs which have normal aliphatic chain structure. The effect of mixing naphthenes and branched paraffins upon the heat of combustion was studied with 2, 2, 5-trimethyl-3-cyclohexylhexane, and 4, 9-dipropyldodecane and 5, 10-dibutyltetradecane. It was found that the heats of combustion of the mixtures are additive.

Spandau, Hans and Brunneck, Edgar.
DETERMINATION OF THE PARTICLE WEIGHT OF ORGANIC COMPOUNDS WITH THE AID OF THE DIALYSIS METHOD. II. DIALYSIS MEASUREMENTS IN BENZENE. [1962] 17p.
Order from K-H $21.25 K-H 3280-d

Trans. of Angew[andte] Chemie (West Germany) 1953, v. 65, 7 Apr, p. 183-186.

DESCRIPTORS: Determination, *Molecular weight, *Particles, *Organic compounds, Electrodiolysis.

Vogel, Emanuel.
SMALL CARBON RINGS. [1962] [76]p. 216 refs.
Order from SLA $7.60 62-16694

Trans. of Justus Liebigs Annalen der Chemie (West Germany) 1958, v. 615, p. 1-14.

DESCRIPTORS: *Carbon compounds, Monocyclic compounds, Cyclobutanes, Cyclobutenes, Butanes, Butenes, Propenes, Synthesis.

Vol'fson, V. Ya., Korneichuk, G. P. and others.
PECULIARITIES OF THE CATALYTIC OXIDATION OF NAPHTHALENE, PT. 3. Oct 61, 4p. 7 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Ukrain[skii] Khim[icheskii] Zhur[nal] (USSR) 1960, v. 26, no. 5, p. 588-593.
Another trans. is available from ATS $9.45 as ATS-47N53R [1962] 6p.

DESCRIPTORS: *Naphthalenes, Oxidation, Catalysts, *Vanadium catalysts, Anhydrides.

Physical Chemistry

Efremova, G. D. and Koroleva, R. O.
THE EQUILIBRIUM SOLID-LIQUID-GAS IN THE SYSTEM MELAMINE-AMMONIA-CO_2. Oct 61, 3p. 5 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of #Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, no. 4 [p. 821-824].
Another trans. is available from OTS or SLA $1.10 as 62-10228, 22 June 61 [7]p.

DESCRIPTORS: Solids, Liquids, Gases, *Chemical equilibrium, *Melamine, *Ammonia, Carbon dioxide, Phase studies.

Efremova, G. D. and Leont'eva, G. G.
THE SOLUBILITY OF MELAMINE IN SOLUTIONS OF DICYANDIAMIDE IN LIQUID AMMONIA. Oct 61, 2p. 3 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1960, no. 8 [p. 626-627].
Another trans. is available from OTS or SLA $1.10 as 62-10248 [1961] [5]p.

DESCRIPTORS: Solubility, *Melamine, *Guanidines, Cyano radicals, *Ammonia, Heat of solution.

Fuks, N. A. and Yankovskii, S. S.
ÜBER DIE THERMOPHORESE IN DER STRÖMUNG EINES AEROSOLS. (On the Thermophoresis in the Flow of an Aerosol). 7p. (Text in German).
Order from T. I. B. $1.55

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 119, no. 6, p. 1177-1179.
Another trans. is available in English from OTS $0.50 as 59-13117, JPRS (NY)-L-627, 12 Feb 59, 5p.

DESCRIPTORS: *Aerosols, Diffusion theory, Gases.

Kasatkin, A. G., Kagan, S. Z., and Trukhanov, V. G.
EMPIRICAL EQUILIBRIUM DISTRIBUTION EQUATIONS FOR LIQUID-LIQUID SYSTEMS. Oct 61, 5p. 13 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1960, no. 6 [p. 488-492].
Another trans. is available from OTS or SLA $1.60 as 62-10969 [1962] [14]p.

DESCRIPTORS: *Chemical equilibrium, Equations, Liquids, *Phase studies.

Leonov, A. I.
INFLUENCE OF THE GASEOUS MEDIUM ON THE COURSE OF PHYSICO-CHEMICAL PROCESSES IN SEMICONDUCTOR OXIDES AT HIGH TEMPERATURES. Oct 61, 5p. 17 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of #Akad[emiya] Nauk SSSR. Otdel[enie] Khim[icheskikh] Nauk. Izvest[iya] 1960, no. 9, p. 1529-1534.
Another trans. is available from ATS $9.45 as ATS-39N50R [1962] 7p.

DESCRIPTORS: *Semiconductors, Zinc compounds, Chromium compounds, Titanium compounds, *Oxides, Electrical properties, Gases, Temperature.

Macho, Vendelin.
EFFECT OF SULFUR AND SOME OF ITS COMPOUNDS ON THE OXO PROCESS. Oct 61, 5p. 19 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Chem[icke] Zvesti (Czechoslovakia) 1961, v. 15, p. 181-190.
Another trans. is available from ATS $14.25 as ATS-14N52C [1961] 8p.

DESCRIPTORS: *Sulfur, *Sulfur compounds, Thiols, Thiophenes, *Oxo process, Ethylenes, Aldehydes.

Myamlin, V. A.
ON THE THEORY OF ANODIC DISSOLUTION OF SILICON. [1962] 5p. 4 refs.
Order from OTS or SLA $1.10 62-10648

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1961, v. 139, no. 5, p. 1153-1156.

DESCRIPTORS: *Silicon, Decomposition, Electrolytes, *Electrochemistry, Anodes (Electrolytic cell).

The computation is presented of the volt-ampere characteristic of the anodic dissolution of electron silicon.

Myamlin, V. A.
POLARIZATION CURVE OF THE ANODIC DISSOLUTION OF GERMANIUM OF FINITE DIMENSIONS. [1962] 6p. 5 refs.
Order from OTS or SLA $1.10 62-10636

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1961, v. 140, no. 4, p. 870-873.

DESCRIPTORS: *Semiconductors, *Germanium, Anodes (Electrolytic cell), Polarization, Mathematical analysis, *Electrochemistry.

The germanium dissolution process is analyzed for the case when the semiconductor length is commensurable with the diffusion length or is less.

Panchenkov, G. M., Skoblo, V. A., and Zhorov, Yu. M.
DETERMINATION OF EFFECTIVE DIFFUSION COEFFICIENTS IN POROUS SORBENTS. Oct 61, 3p. 6 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zaved[enii] Neft' i Gaz (USSR) 1961, v. 4, no. 1, p. 73-77.
Another trans. is available from ATS $7.60 as ATS-80N51R [1962] 5p.

DESCRIPTORS: *Porous materials, *Diffusion, Adsorbents, Mathematical analysis.

Panchenkov, G. M. and Zhorov, Yu. M.
A METHOD FOR THE DETERMINATION OF THE RATES AND KINETIC CONSTANTS OF COMPLEX CHEMICAL REACTIONS IN A FLOWING SYSTEM. Oct 61, 3p. 2 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1960, v. 135, no. 5, p. 1172-1175.
Another trans. is available from OTS $0.50 as 61-31547, APL/JHU TG-230-T229, 6 Apr 61, 6p.

DESCRIPTORS: *Chemical reactions, *Reaction kinetics, Velocity, Catalysts, Mathematical analysis.

Roginskii, S. Z.
THE ALL-UNION CONFERENCE CONCERNING ISOTOPES IN CATALYSIS (NO. 2). 14 May 62 [8]p. JPRS: 13785.
Order from OTS or SLA $1.10 62-24711

Trans. of Kinetika i Kataliz (USSR) 1961, v. 2, no. 5, p. 643-647.
Another trans. is available from HMSO $0.77 in NLL Translations Bulletin, 1962, v. 4, no. 4.

DESCRIPTORS: *Conferences, *Catalysts, *Isotopes, Chemical analysis, Chemical reactions, Reaction kinetics.

Shikhov, V. N.
METHODS OF INVESTIGATING THE KINETICS OF HIGH-TEMPERATURE PROCESSES (Metodika Issledovaniya Kinetiki Vysokotemperaturnogo Protsessa). [1962] [13]p. 15 refs. C.E. Trans. 1803; [DSIR] NLL M. 3125.
Order from OTS or SLA $1.60 62-24900

Trans. of Ural'[skii] Politekh[nicheskii] Inst[itut, Sverdlovsk]. Trudy (USSR) 1957 [v. 67] p. 78-91.

DESCRIPTORS: Slags, *Metals, *Sulfur, *Phosphorus, Separation, Desulfurization, *Reaction kinetics, Temperature, Crucibles, Radioactive isotopes.

A method is described which enables the velocity of removal of sulfur and phosphorus from metal to be studied. Its special properties lie in the small content of phosphorus or sulfur in the metal, the small slag-metal surface, and the use of radioactive isotopes as indicators. The construction of a crucible is proposed which permits a kinetic study of a rapid reaction of distribution of a substance between two phases.

Vol'nov, Yu. N. and Ozimov, B. V.
REFLECTION SPECTRA AND THEIR APPLICATION TO THE STUDY OF SORPTION PROCESSES. Oct 61, 3p. 8 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Vsesoyuz[noe] Khim[icheskoe] Obshchestvo. Zhur[nal] (USSR) 1960, v. 5, no. 5, p. 591-592.

DESCRIPTORS: *Spectographic analysis, Reflection, Adsorption, *Chromium compounds, Oxides, Hydrates, Ethanols, Benzenes, Acetates, Esters, Amines.

Zefirova, A. K. and Shilov, A. E.
KINETICS AND MECHANISM OF THE REACTION OF ALUMINUM ALKYLS WITH TITANIUM HALIDES, tr. by I. Gawronska. 20 July 61 [7]p. 8 refs. Courtaulds Misc. Lit. 3348; NLL M. 3447.
Order from OTS or SLA $1.10 62-24651

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 136 [no. 3] p. 599-602.
Another trans. is available from OTS or SLA $1.10 as 62-10440 [1961] [6]p.

DESCRIPTORS: *Aluminum compounds, Alkyl radicals, *Titanium compounds, Halides, Reaction kinetics.

The reaction of $(C_5H_5)_2TiCl_2$ with $Al(C_2H_5)_3$, $Al(CH_3)_3$ and $Al(C_2H_5)_2Cl$ is examined and an attempt is made to represent the reaction mechanism. (Author) (See also 62-10433)

Zhukova, N. V.
INFLUENCE OF FLUXES ON THE LEVEL OF LOCALIZATION OF THE ELECTRONS IN ZnS-Cu-PHOSPHORS. [1962] 7p. (4 figs. omitted) 15 refs.
Order from OTS or SLA $1.10 62-16703

Trans. of Akademiya Nauk SSSR. Doklady, 1952, v. 85, no. 5, p. 981-984.

DESCRIPTORS: *Zinc compounds, *Sulfides, *Copper *Phosphors, *Luminescence, *Electrons, Excitation, Brightness, Temperature, Heating, Lattices.

EARTH SCIENCES

BULLETINS OF THE ACADEMY OF SCIENCES USSR, GEOGRAPHICAL AND GEOPHYSICAL SERIES, 1945, VOL. 9, NO. 5/6: [SELECTED ARTICLES]. [1961] [65]p. 29 refs. ACIC LD-45.
Order from OTS or SLA $6.60 62-15598

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geograficheskaya i Geofizicheskaya, 1945, v. 9, no. 5/6, p. 511-528 and 535-546.

DESCRIPTORS: *Magnetic storms, Gravity, Potential theory, *Parabolic bodies, Bodies of revolution, Cylindrical bodies, *Earth, Deformation, *Geophysics, *Ships, *Oscillation.

Contents:
On "local" and "world" magnetic disturbances, by S. K. Vsekhsvyatskii
Solution of the direct and inverse gravitational potential problem for the paraboloid of rotation and the infinite parabolic cylinder, by L. Gavrilov
On one of the possible cases of the deformation of the earth's crust, by V. A. Magnitskii
The compensation of the influence of the vertical oscillation of a ship on the mean period of a gravimetric pendulum, by V. A. Kazinskii.

EAST EUROPEAN SCIENTIFIC MEETINGS. 3 Aug 62 [14]p. JPRS: 14731.
Order from OTS or SLA $1.60 62-32213

Trans. of Idojaras (Hungary) 1962, v. 66, no. 1, p. 59-63.

DESCRIPTORS: *Conferences, *Geophysics, *Meteorology, Hungary.

Contents:
International Geophysical Cooperation of the Eurasian Region in Warsaw (meeting no. 5) by B. B.
Hungarian Meteorological Society (general assembly no. 34) by V. E.

Galfi, J. and Stegena, L.
DEEP REFLECTION TESTS IN HUNGARY, A CONTRIBUTION TO THE STUDY OF THE CONTINENTAL STRUCTURE (Tiefenreflexionsversuche in Ungarn, zum Studium der Kontinentalen Aufbauung). [1962] [7]p. (foreign text included) 5 refs.
Order from SLA $1.10 62-14604

Trans. of Geologische Rundschau (West Germany) 1957, v. 46 [no. 1] p. 26-29.

DESCRIPTORS: *Seismic waves, Reflection, Earth, *Geophysics, *Hungary.

Seismic reflection measurements were performed in Hungary for the study of the earth's crust. Some 50 to 100 kilos of dynamite in 40 to 50 m deep bore holes were used as sources of energy. The intonations were registered with seismic reflection meters of our own construction. In the district of Debrecen in Northeastern Hungary, a depth of 19.4 kilometers was revealed for the Conrad stratum, and a depth of 23.6 kilometers for the Mohorovicic stratum. In the vicinity of Pecs, in Southern Hungary, the depth of the Conrad stratum was 19.6 kilometers and that of the Mohorovicic stratum was 25.2 kilometers. (Author)

Khrgyan, A. Kh.
THE ALL-UNION CLOUD YEAR [AND] PUBLICATIONS OF THE SCIENTIFIC RESEARCH INSTITUTIONS OF THE HYDROMETEOROLOGICAL SERVICE FOR 1961 (CONTINUATION). 1 Aug 62 [21]p. 2 refs. JPRS: 14677.
Order from OTS or SLA $2.60 62-32199

Trans. of Meteorologiya i Gi...logiya (USSR) 1962, no. 6, p. 10-14 and 58-62.

DESCRIPTORS: Scientific organizations, Periodicals, *Meteorology, *Hydrology, *Oceanography, *Clouds, Weather stations.

[Troitskaya] V. A.
"EARTH STORMS" AND THE GEOPHYSICAL ASPECTS OF COSMIC RADIATION, tr. by E. R. Hope. June 62, 5p. 1 ref. DSIS T 373 R.
Order from NRCC NRCC C-4024

Trans. of Akad[emiya] Nauk SSSR. Vestnik, 1962 [v. 32] no. 3, p. 51-55.

DESCRIPTORS: Ionospheric disturbances, Storms, *Earth, *Magnetic storms, *Geophysics, Sun, *Cosmic rays.

Troitskaya, V. A.
MAIN CHARACTERISTICS OF THE TELLURIC CURRENT FIELD IN ANTARCTICA. 21 May 62, 3p. AID Rept. 62-69.
Order from OTS or SLA $1.10 62-25763

Abstract trans. of Sovetskaya Antarkticheskaya Ekspeditsiya [1955-] (USSR) 1960, v. 9, p. 10-24.

DESCRIPTORS: Geophysics, *Terrestrial magnetism, *Electromagnetic fields, Antarctic regions.

Yakovlev, G. N.
THE SNOW COVER ON THE DRIFTING ICE OF THE CENTRAL ARCTIC (Snezhnyi Pokrov na Dreifuyushchikh L'dakh Tsentral'noi Arktiki) tr. by Burton J. Hobson. Feb 61 [20]p. 10 refs. AmMetSoc-T-R-377.
Order from OTS or SLA $1.60 62-23493

Trans. of Problemy Arktiki i Antarktiki (USSR) 1960, no. 3, p. 65-76.

DESCRIPTORS: *Snow, *Ice, *Arctic regions, Geophysics, Hydrology, Meteorology, Oceanography, Atmosphere, Heat transfer, Drift, Permafrost, Climatic factors.

Climatology and Meteorology

SOVIET HYDROMETEOROLOGICAL SERVICE: A REVIEW. 25 Jan 62, 48p. JPRS: 12076.
Order from OTS 41.25 62-11110

Trans. of Meteorologiya i Gidrologiya (USSR) 1961, no. 6, p. 3-12, 57-61, 65-66.

DESCRIPTORS: *Meteorology, *Hydrology, *Oceanography, Scientific organizations, Weather forecasting, Upper atmosphere.

Contents:
Forty years of the Soviet meteorological Service, by A. A. Zolotukhin
Publications on meteorology, hydrology, and oceanography for 1960. Articles in magazines and handbooks
Summary session of the Scientific Council of the Central Institute of Forecasting (Jan 61) by A. S. Potapov
Summary session of the Scientific Council of the Central Aerological Observatory (Feb 61) by G. L. Belyaeva.

Evseev, P. K. and Ling, Te-ch'ang.
USE OF COMPUTER TECHNOLOGY IN METEOROLOGY [AND] ATTEMPT AT A QUANTITATIVE PRECIPITATION FORECAST. 10 Apr 62 [18]p. JPRS: 13391.
Order from OTS or SLA $1.60 62-23808

Trans. of Meteorologiya i Gidrologiya (USSR) 1961, no. 12, p. 6-14 and 23-25.

DESCRIPTORS: Meteorology, *Hydrology, *Computers, *Weather forecasting, Precipitation, Boundary layer.

The decisive introduction of computer technology in our work will raise the Hydrometeorological Service to a higher scientific and technical level. At the same time conditions will be created under which the Hydrometeorological Service will be able to render important help to the national economy, so that enormous capital investments "may be used most intelligently and economically, with the maximum results and time saving." (Evseev) An attempt is made to make a quantitative estimate of the condensed moisture, not only in the free atmosphere, but in the boundary layer as well. (Ling)

Gol'tsman, M. I.
BASES OF THE METHODS USED IN AEROPHYSICAL MEASUREMENTS. [1962] [577]p. 121 refs. USASIA Trans. Log no. 1382.
Order from OTS or SLA $26.00 62-32506

Trans. of mono. Osnovy Metodiki Aerofizicheskikh Izmerenii, Moscow, 1950, 360p.
Partial trans. (chap. 5) is available from SLA as RT-1330.

DESCRIPTORS: *Meteorology, *Atmosphere, Turbulence, Temperature, Moisture, Pressure, Wind, Measurement.

Kondrat'ev, K. Ya.
RADIANT HEAT EXCHANGE IN THE ATMOSPHERE: VOL. I, tr. by Charles E. Davenport. [1962] [462]p. USASIA Trans. Log no. 1380, pt. 1.
Order from OTS or SLA $23.50 62-32503-1

Trans. of mono. [Luchistyi Reploobmen v Atmosfere] Leningrad, 1956, chaps. 1-5, foreword and table of contents.

DESCRIPTORS: *Atmosphere, *Heat transfer, *Thermal radiation, Measurement, Absorption, Blackbody radiation, Meteorology, Geophysics, Numerical methods and procedures.

Contents:
Thermal radiation, basic definitions and concepts
Principles of the theory of actinometric measurements of thermal radiation fluxes

Absorption of long-wave radiation in the atmosphere
General solution of the problem of calculating the transfer of thermal energy
Approximate methods and results of calculations of thermal radiation in the atmospher.

Kondrat'ev, K. Ya.
RADIANT HEAT EXCHANGE IN THE ATMOSPHERE: VOL. II [tr. by Charles E. Davenport]. [1962] [421]p. 387 refs. USASIA Trans. Log no. 1380, pt. 2.
Order from OTS or SLA $22.25 62-32503-2

Trans. of mono. [Luchistyi Reploobmen v Atmosfere] Leningrad, 1956, chaps. 6-8 and bibliography.

DESCRIPTORS: *Atmosphere, *Heat transfer, *Thermal radiation, Meteorology, Temperature, Mathematical analysis.

Contents:
Counter-radiation of the atmosphere and effective radiation and counter-radiation

Radiation balance
Variation of temperature in the atmosphere due to radiant heat exchange. (See also 62-32503-1)

Mineeba, M. M.
PROGNOSIS OF THE GEOPOTENTIAL IN THE CENTERS OF CYCLONES AND ANTICYCLONES AT HEIGHTS ALONG THE WIND FIELD TAKING ACCELERATION INTO ACCOUNT. 6 Apr 62 [15]p. 3 refs. JPRS: 13356.
Order from OTS or SLA $1.60 62-23829

Trans. of Tsentral'nyi Institut Prognozov. Trudy (USSR) 1961, v. 112, p. 32-39.

DESCRIPTORS: Weather forecasting, *Air mass analysis, Wind, *Cyclones, *Anticyclones, Pressure, Velocity.

The article presents the results of the precalculation of the diurnal variation of the geopotential height (H) of the 850- and 700-mb isobaric surfaces in the center of cyclones and anticyclones at these levels. The variation of H is determined from the values of the first and second time derivatives of H as calculated from the absolute pressure topography charts for the initial observation time. The first derivative is assumed to be proportional to the divergence of the wind velocity at the corresponding isobaric surface (850 or 700 mb). In the calculation of the second derivative, account is taken of the second derivatives of H along the horizontal rectilinear coordinates x and y as well as the difference between the actual and geostrophic vorticity of the wind velocity at that same level. (Author)

Geodesy

COLLECTION OF SCIENTIFIC, TECHNICAL AND INDUSTRIAL ARTICLES ON GEODESY, CARTOGRAPHY, TOPOGRAPHY, AERIAL SURVEY, AND GRAVIMETRY, 1949, VOL. 23: [SELECTED] ARTICLES. [1962] [49]p. ACIC LD-53.
Order from OTS or SLA $4.60 62-25654

Trans. of Sbornik Nauchno-Tekhnicheskikh i Proizvodstvennykh Statei po Geodezii, Kartografii, Topografii, Aeros"emki i Gravimetrii (USSR) 1949, v. 23, p. 21-28 and 61-79.

DESCRIPTORS: Geodesics, *Mapping, *Trigonometry, Applied mathematics, *Geodetic data, Markers, Arctic regions, Time, *Chronographs, Azimuth, Stars.
Contents:
New formulae and order of computing reductions in the projections of a second-order triangulation on a plane, by D. A. Larin
Leveling tie of the Kronshtadt guage datum with the continent, by D. S. Sherman and A. I. Bulanov
Time determination in the North, by A. P. Kolupaev.

PROBLEMS AND DEVELOPMENTS OF GEODESY IN THE USSR. 2 July 62 [49]p. JPRS: 14340.
Order from OTS or SLA $4.60 62-25611

Trans. of mono. Trudy Tret'ego S"yezda Vsesoyuznogo Astronomo-Geodezicheskogo Obshchestva (Proceedings of the Congress of the All-Union Astronomic Geodetic Society (no. 3)) Moscow 1962, p. 67-82.

DESCRIPTORS: *Geodesics, *Geodetic astronomy, *Geodetic data, Earth, Surface area, *Mapping.

Contents:
Present state of geodesy and tasks ahead, by A. A. Izotov
Perspectives of the development of the astrogeodetic network in the USSR, by S. G. Sudakov.

RESEARCH ACTIVITY OF POTSDAM GEODETIC INSTITUTE. 10 Mar 61 [6]p. JPRS: 6899.
Order from OTS or SLA $1.10 62-24564

Trans. of Akademie der Wissenschaften, Berlin. Jahrbuch (Germany) 1959, p. 404-408.

DESCRIPTORS: Scientific organizations, *Geodesics.

RUMANIAN MAPPING PROGRAMS. 2 Feb 62 [18]p. JPRS: 12267.
Order from OTS or SLA $1.60 62-19658

Partial trans. (part summary) of Revista de Geodezie si Organizarea Teritoriului (Rumania) 1961, v. 5, no. 3, p. 33-46.

DESCRIPTORS: *Mapping, Aerial photography, Deltas, Maps, *Rumania.

Contents:
Concerning the preparation of a fundamental topographic plan of Rumania, by Nicolae Zegheru and Nicolae Nicoara
A method of preparing the map of the Danube delta at the scale 1:10,000, by Gheorghe Tirica and others.

Avgevich, V. I.
PROCESSING OF A SINGLE PLANE RECONNAISSANCE AIR-SURVEY WITHOUT SPECIAL GROUND POINTS. [1961] [16]p. ACIC LD-8.
Order from OTS or SLA $1.60 62-15546

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1953, v. 16, p. 51-57.

DESCRIPTORS: *Mapping, *Aerial photography, *Aerial reconnaissance.

Bagratuni, G. V.
ON THE DERIVATION OF FORMULAE FOR SOLVING THE INVERSE PROBLEM FOR THE GAUSS-KRUEGER PROJECTION. [1961] [6]p. 2 refs. ACIC LD-13.
Order from OTS or SLA $1.10 62-15552

Trans. of Moskovskii Institut Inzhenerov Geodeozii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 24, p. 57-59.

DESCRIPTORS: *Geodesics, Geodetic data, Numerial analysis, Complex numbers, Transformations (Mathematics).

Bespalov, M. A.
ON THE EVALUATION OF THE ACCURACY OF DOUBLE CHAINS OF TRIANGLES, QUADRANGLES, AND CONTINUOUS NETS. [1961] [29]p. 2 refs. ACIC LD-9.
Order from OTS or SLA $2.60 62-15548

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1955, v. 21, p. 33-48.

DESCRIPTORS: *Geodesics, Geodetic data, Errors, Azimuth, Numerical analysis, Continued fractions.

Chebotarev, A. S.
ACHIEVEMENTS AND PROBLEMS OF SOVIET GEODETIC SCIENCE. [1961] [57]p. 8 refs. ACIC LD-11.
Order from OTS or SLA $5.60 62-15550

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1955, v. 22, p. 3-25.

DESCRIPTORS: *Geodesics, History.

Denzin, Petr Vasil'evich.
GEODESY, PT. II, 2D ED. [1962] [460]p. ACIC G-2.
Order from OTS or SLA $23.50 62-15566

Trans. of mono. Geodeziya, pt. II, 2d ed., Moscow, 1955, pt. 2, 340p.

DESCRIPTORS: *Geodesics, Measurement, Errors, Theory, Numerical analysis, Stadiometers, Leveling rods, Barometers, *Textbooks

Contents:
Fundamentals of the theory of errors of measurement
Fundamentals of computation
Traverses
Precision stadia instruments
Direct leveling
Barometric laveling
Topographic surveys
Determination of areas

Dureiko, G. V.
ASSOCIATE PROFESSOR V. A. BELITSYN'S ENGINEER'S LEVEL SYSTEM. [1961] [26]p. ACIC LD-19.
Order from OTS or SLA $2.60 62-15558

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 28, p. 27-40.

DESCRIPTORS: *Geodesics, Instrumentation, *Leveling rods, Design, Optics.

Evseev, S. V.
CERTAIN REGULARITIES OF THE GRAVITATIONAL FIELD OF THE EARTH AND THEIR IMPORTANCE TO GEODESY AND CARTOGRAPHY. [1962] 33 refs. ACIC RR-51.
Order from OTS or SLA $9.60 62-15964

Trans. of mono. O Nekotorykh Zakonomernostyakh Gravitatsionnogo Polya Zemli i Ikh Znachenii dlya Geodezii i Geofiziki, Kiev, 1957 [71p.].

DESCRIPTORS: *Earth, Gravity, Geodesics, Mapping, *Gravity anomalies, Geodetic data.

Contents:
Contemporary problems of theoretical gravimetry
Observed values of the force of gravity
Dependence of the values of the force of gravity on elevation
Geophysical significance of gravity anomalies
Local gravity anomalies
Local anomalies and isostasy
Gravity anomalies and geodesy
Dissociation of gravity anomalies by elevations

Fateev, A. P.
USE OF TWO SCALE PHOTOGRAPHS FOR PLANIMETRIC AND ELEVATION CONTROL FOR LARGE SCALE AERIAL SURVEYS. [1961] [21]p. 5 refs. ACIC LD-21.
Order from OTS or SLA $2.60 62-15560

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 28, p. 61-70.

DESCRIPTORS: *Geodesics, *Mapping, *Aerial photography, Photographs, Scale, Aerial cameras, Control.

Fedoruk, G. D.
DIFFERENTIAL METHOD OF SPATIAL TRIANGULATION WITH DUE REGARD TO CONDITIONS OF SIDES, BASES, AND AZIMUTHS. [1961] [57]p. 3 refs. ACIC LD-22.
Order from OTS or SLA $5.60 62-15562

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 28, p. 77-104.

DESCRIPTORS: *Geodesics, Mapping, Aerial photography, Corrections, Azimuth, Differential equations.

Finger, D. L., Kudrevskii, A. I. and others.
EXPERIMENTAL SURVEY OF TERRESTRIAL MAGNETISM WITH MAGNETOMETERS TOWED BEHIND AN IRON SHIP [AND] THE SERIES NUCLEAR MAGNETOMETER PM-1. 2 Mar 62 [21]p. 4 refs.
JPRS: 12757.
Order from OTS or SLA $2.60 62-23349

Trans. of Geomagnetizm i Aeronomiya (USSR) 1961, v. 1, no. 3, p. 421-425 and 436-440.

DESCRIPTORS: *Terrestrial magnetism, Geophysical prospecting, *Magnetometers, Magnetic fields, Ships.

This article deals with the results of measurements of the Z-component and the T-module of the vector of the terrestrial magnetic field, made by magnetometers whose sensitive elements are towed in special gondolas behind an iron ship. The survey was made in an anomalous magnetic field with amplitude of T on the order of 1,300γ. The errors of measurement were analyzed. These were as follows: with measurement of Z by the magnetometer of NIIZM-2 type, of the order of ±70γ; with measurement of T with the AM-13 magnetometer, ±35γ, and with the PM-1 magnetometer, ±13γ. (Author)

Girshberg, M. A.
FIELD TEST OF ENGINEER A. A. LUKER'IN'S MEASURING DEVICE. [1961] [12]p. 1 ref. ACIC LD-6.
Order from OTS or SLA $1.60 62-15547

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1953, v. 16, p. 25-30.

DESCRIPTORS: *Geodesics, Measurement, *Instrumentation, Tests.

Konopal'tsev, I. M.
PRACTICAL USE OF THE METHOD OF SEPARATE REPETITIONS INTRODUCING CORRECTIONS FOR ERRORS OF THE DIAMETER OF A CIRCLE. [1961] [27]p. ACIC LD-7.
Order from OTS or SLA $2.60 62-15545

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1953, v. 16, p. 37-50.

DESCRIPTORS: *Geodesics, Geodetic data, Errors, Corrections.

Korobochkin, M. I.
THE APPLICATION OF THE MULTIPLE GROUP METHOD TO THE ADJUSTMENT OF LARGE TRIANGULATION NETS. [1961] [54]p. 4 refs.
ACIC LD-10.
Order from OTS or SLA $5.60 62-15549

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1955, v. 21, p. 57-83.

DESCRIPTORS: *Geodesics, Geodetic data, Errors, Corrections, Numerical methods and procedures.

Kozlov, V. P.
THE USE OF DEPENDENT CONDITIONS AS A CONTROL IN THE ADJUSTMENT OF ELEVATION CONTROL NETS BY THE METHOD OF CONDITIONAL OBSERVATIONS. [1961] [9]p. ACIC LD-14.
Order from OTS or SLA $1.10 62-15553

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 24, p. 105-110.

DESCRIPTORS: *Geodesics, Geodetic data, Errors, Control, Correlation techniques.

Lazarev, P. P. and Gaveman, A. V.
GENERAL PRINCIPLES OF GEOPHYSICAL CARTOGRAPHY [AND] APPLICATION OF AERIAL PHOTO SURVEYING TO HYDROGRAPHIC OPERATIONS IN THE SOVIET ARCTIC. [1961] [74]p. ACIC LD-54.
Order from OTS or SLA $7.60 62-15606

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Geograficheskaya i Geofizicheskaya, 1940, v. 4, no. 1, p. 3-16 and 133-152.

DESCRIPTORS: *Geophysical prospecting, *Mapping, *Aerial photography, Photography, *Hydrographic surveying, Arctic regions.

Lazarev's treatise establishes the relationship between the precision of geophysical measurements and the scale of maps on which the positions of points where the measurements were made, are plotted. It indicates the relation of the limit density of stations in the observation net with the scale of the map. It describes the control method for the accurate distribution of isolines x and y on the map. Orthogonal conditions of the isolines x and y are established. In Gaveman's article three problems are examined: (1) the technique of aerial photo survey operations under the conditions found in the Far North, (2) the feasibility of compiling piloting instructions for northern rivers using aerial photo survey materials, and (3) the detailing of landform maps and navigational charts accomplished by the deciphering of aerial photos and by surface operations. The author believes that surface operations may in some cases be replaced by aerial survey materials, yielding materials superior in accuracy and detail to those obtained by ordinary methods. (Author)

Mazmishvili, A. I.
SOME GENERALIZATIONS IN THE FIELD OF THE ALGERBRAIC THEORY OF ADJUSTMENTS, AND EVALUATION OF THE PRECISION OF GEODETIC CONSTRUCTIONS. [1961] [65]p. 11 refs. ACIC LD-12.
Order from OTS or SLA $6.60 62-15551

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 24, p. 3-42.

DESCRIPTORS: *Geodesics, Geodetic data, Algebra, Theory, Least squares method, Matrix algebra, Correlation techniques.

Piskunov, M. E.
ERRORS IN HIGH PRECISION LEVELING ARISING FROM INCORRECT POSITIONING OF INVAR RODS. [1961] [26]p. 10 refs. ACIC LD-20.
Order from OTS or SLA $2.60 62-15559

Trans. of Moskovskii Institut Inzhenerov Geodezii, Aerofotos"emki i Kartografii. Trudy (USSR) 1957, v. 28, p. 41-52.

DESCRIPTORS: *Geodesics, Errors, *Leveling rods.

Sinyagina, M. I.
SOME PROBLEMS IN THE STUDY OF RECENT VERTICAL MOVEMENTS IN THE EARTH'S CRUST. 29 May 62, 3p. AID Rept. 62-73.
Order from OTS or SLA $1.10 62-25765

Abstract trans. of #Geodeziya i Kartografiya (USSR) 1962, no. 2, p. 11-16.

DESCRIPTORS: *Lithosphere, Motion, Velocity, Maps, Periodic variation, Earth, Oscillation, Geophysics.

Vorob'ev, V. I., comp.
REVIEW OF ASTROGEODETIC OPERATIONS OF THE HYDROGRAPHICAL ADMINISTRATION OF THE MAIN NORTHERN SEA ROUTE FOR 1935. [1961] [226]p. ACIC LD-3.
Order from OTS or SLA $15.00 62-15538

Trans. of Materialy po Gidrografii Morei i Rek Sovetskoi Arktiki (USSR) 1937, v. 1.

DESCRIPTORS: *Geodetic astronomy, Geodesics, Geodetic data, Hydrographic office, *Hydrographic surveying, Mathematical analysis.

Contents:
Description of astronomic-geodetic operations
Catalog of astronomic and triangulation points determined during the hydrographic operations of 1935 in the northern sea route.

Geology

WORKS OF THE HYDROTECHNICAL INSTITUTE "ENG. JAROSLAV CERNI", SELECTED ARTICLES FROM "ZBORNIK RADOVA" 1957, NO. 5 AND "SAOPSTENJA" 1957, NO. 8. 1961, 81p. 7 refs. PL-480 Int.
Order from OTS $0.75 60-21644

Trans. of Hidrotehnicki Institut "Inzenjer Jaroslav Cerni". Saopstenja (Yugoslavia) 1957, no. 8 [p. 11-21] and Hidrotehnicki Institut "Inzenjer Jaroslav Cerni". Zbornik Radova (Yugoslavia) 1957, no. 5 (2 articles).

DESCRIPTORS: *Geology, *Rock, Elasticity, Determination, Seismic waves, Refraction, Hydraulic systems, Underground structures, Pressure, Mountains, Deformation, Tests, Yugoslavia.

Contents:
The determination of the elasticity modulus of rocks and of the disaggregated zone in hydraulic pressure tunnels by the seismic refraction method, by B[ranislav] Kujundzic and B. Colic
The anisotropy of rocky mountain massives, by Branislav Kujundzic
Results of testing the rock deformation moduls in Yugoslavia, by B[ranislav] Kujundzic and Z. Radosavljevic.

Kanskii, N. E.
ABOUT THE FRAGMENTAL (CLASTIC) QUARTZ FROM THE MIDDLE AND UPPER JURASSIC DEPOSITS OF THE DONETZ RIDGE. [1962] 4p. 5 refs.
Order from OTS or SLA $1.10 62-16427

Trans. of [Akademiya Nauk SSSR. Doklady] 1955, v. 102, no. 4, p. 813-814.

DESCRIPTORS: *Quartz, Deposits, Petrology, Sedimentation, Rock, Paleoecology, *Feldspar.

Leutwein, F. and Doerffel, K.
ON SOME PROCEDURES FOR THE THEORETICAL CLARIFICATION OF GEOCHEMICAL PROCESSES WITH SPECIAL CONSIDERATION OF THE LATTICE ENERGY (Über Einige Verfahren zur Theoretischen Klärung Geochemischer Prozesse, unter Besonderer Berücksichtigung der Gitterenergie). [1962] [90]p. (foreign text included) 43 refs.
Order from SLA $8.10 62-16432

Trans. of Geologie (West Germany) 1956, v. 5, no. 2, p. 65-100.

DESCRIPTORS: *Geochemistry, Lattices, Energy, Lead, Ores, Crystallization, Silicates, Thermodynamics, Tungstates, *Minerals, Heat of formation, Geological time.

Polyntseva, O. A.
SOILS OF THE SOUTHWESTERN PART OF THE KOLA PENINSULA, tr. by J. S. Joffe. 1962, 135p. 91 refs. PL-480 Agr.
Order from OTS $1.25 61-11498

Trans. of mono. Pochvy-Yugo-Zapadnoi Chasti Kol'skogo Poluostrova, Moscow/Leningrad, 1958 [152]p.

DESCRIPTORS: *Soils, Geology, Classification, Climatic factors, Plants, *Peat, *Mountains, *Terrain, Geography

Contents:
Factors of soil formation
Classification of soils of the southwestern portion of the Kola Peninsula
Soils of the valleys
Plant composition of peat
Soils of the mountain massifs.

Reitlinger, E. A.
ATLAS OF MICROSCOPIC ORGANIC REMAINS AND PROBLEMATICA OF ANCIENT DEPOSITS OF SIBERIA. [1962] 74p.
Order from ATS $37.50 ATS-79N57R

Trans. of Akad[emiya] Nauk SSSR. Geol[ogicheskii] Inst[itut]. Trudy, 1959, v. 25, p. 1-62.

DESCRIPTORS: *Paleoecology, *Microoganisms, Deposits, Siberia.

Rudich, E. M.
CONTEMPORARY MOVEMENTS OF SAKHALIN.
8 Feb 62, 2p. AID rept. 62-21.
Order from OTS or SLA $1.10 62-23699

Abstract trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 141, no. 2, p. 437-440.

DESCRIPTORS: Geophysics, Geology, *Sakhalin Island.

The southern and the central parts of the island, as compared with the northern, are characterized by more intense uplifts. The fastest uplifting occurs in central Sakhalin. No differences in the rate of movements in the western and eastern parts of the island have been noted. The movements in the southern and central parts of Sakhalin are more sharply differentiated than those in the northern part. This is illustrated by the absence of en-bloc displacements in the general domal uplift of the northern part of the island. (Extract)

Smirnov, L. E.
STEREOPHOTOGRAPHY WITH "PORTABLE" 35 MM AND ROLL-FILM CAMERAS DURING GEOLOGICAL AND GEOGRAPHICAL FIELD SURVEYS. 6 June 61 [12]p. JPRS: 8420.
Order from OTS or SLA $1.60 61-23467

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15, no. 24. Seriya Geologii i Geografii no. 4] p. 131-138.

DESCRIPTORS: Geology, Geophysical prospecting, Geography, Aerial photography, *Aerial cameras, *Stereoscopes, *Photography.

Volkova, I. B.
RESIDUE OF LEAF PARENCHYMA IN LOWER MESOZOIC COALS OF KAZAKHSTAN. [1962] [7]p. 4 refs. NCB Trans. A.1961/SEH; NLL M. 3380.
Order from OTS or SLA $1.10 62-23890

Trans. of [Akademiya Nauk SSSR. Doklady, 1960, v. 132, no. 3, p. 677-680].
Another trans. is available from AGI $8.00 (v. 132, nos. 1-6, Earth Sciences Sections).

DESCRIPTORS: *Coal, *Plants, Tissues (Biology), *Geochemistry,

A chemical-petrographic investigation of coals of the Maikyubensk basin, showed that, in comparison with clarain coals of wood origin, coals with a predominance of leaf parenchyma residue have higher contents of hydrogen, volatile matter and components soluble in organic solvents. An investigation of the Jurassic coals of Tuva, established that the gelified leaf fibres play a special role in the increase of the indices of the technical analysis of coals and in increasing their caking capacity. The investigation of the residue of parenchymatous fibres in coal can assist not only the solution of genetic problems but also clarify the relation between the quality of coals and their parent material. (Author)

Mineralogy

IMPROVE THE UTILIZATION OF THE MINERAL WEALTH OF THE USSR. Soviet Industrial Development: Selected Translations on Soviet Nonferrous Metallurgy (34). 10 Aug 62 [16]p. JPRS: 14790.
Order from OTS or SLA $1.60 62-32365

Trans. of Kommunist, Moscow (USSR) 1962 [v. 39] no. 9, p. 60-65.

DESCRIPTORS: *Minerals, Economics, Geological survey, Metallurgy

[TRANSACTIONS (REPORTS) OF THE ACADEMY OF THE USSR] 1942, VOL. 34, NO. 4/5: [TABLE OF CONTENTS AND SELECTED ABSTRACTS IN THE FIELD OF PETROLEUM LITERATURE] [1962] 3p.
Order from OTS or SLA $1.10 62-14635

Abstract trans. of [Akademiya Nauk SSSR]. Comptes Rendus (Doklady) de l'Academie des Sciences de l'U.R.S.S., 1942, v. 34, no. 4/5, p. 117-132.

DESCRIPTORS: Fluorine, Boron, *Water, *Petroleum, Sulfur, *Geological survey, *Petrology, Colloids, Minerals, *Montmorillonite, Abstracting.

Contents:
Fluorine and boron in natural waters and their bearing on the occurence of petroleum, by N. V. Tageeva
Sulfur as an indicator in prospecting for oil, by G. I. Teodorovich
Oil reservoirs of the Ishimbaevo-Sterlitamak region, by G. I. Teodorovich
Subdivision of colloid dispersed minerals of the Montmorillonite group, by I. D. Sedletskii.

Bykov, L. N. and Vinogradova, T.
DETECTION OF THE HAZARDOUS PHASE OF OXIDATION PROCESSES IN PYRITE MINES. [1962] 3p. 2 refs.
Order from OTS or SLA $1.10 62-10872

[Condensed] trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1944, no. 6, p. 346-350.

DESCRIPTORS: *Pyrites, *Mines, Hazards, Detection, *Oxidation, Minerals, Fires.

Khrushchov, M. M. and Berkovich, E. S.
EXPERIENCE USING AN ELECTRON MICROSCOPE TO MEASURE PARTICULARLY SMALL IMPRESSIONS OBTAINED DURING MICROHARDNESS TESTING. 11 Oct 61 [5]p. 1 ref.
Order from OTS or SLA $1.10 62-10638

Trans. of A[kademiya] N[auk S]SSR. Otd[elenie] Tekh-[nicheskikh] Nauk. Izv[estiya] 1950, no. 11, p. 1645-1647.

DESCRIPTORS: *Electron microscopy, Measurement, *Hardness, *Microanalysis, Industrial diamonds, Photographs, Ruby.

The possibility is clarified of measuring the size of impressions obtained during hardness testing by means of imprinting by a diamond pyramid by using photographs made from a replica on an electron microscope for imprints with less than 1 μlinear dimension. Impressions made by a trihedral diamond pyramid with small impression size (on the order of 1 μ) are obtained in imprints on replicas much more clearly than are impressions made with a square pyramid, which permits a more exact measurement. (Author)

Oceanography

[OCEANOLOGY] 1961, VOL. 1, NO. 6: [SELECTED ARTICLES]. [1962] [17]p. 2 refs. [DSIR] NLL M.6310.
Order from OTS or SLA $1.60 62-25948

Trans. of Okeanologiya (USSR) 1961, v. 1, no. 6, p. 1079-1084 and 1089-1096.

DESCRIPTORS: *Oceanography, *Buoys, Recording devices, Oceanographic data, Collecting methods, Helicopters, *Oceanographic vessels, *Submarines, Aquatic animals, Underwater objects, Visibility, Ships.

Contents:
New auto-recorders for anchored buoy stations, by N. N. Sysoev
Trial check of oceanographic work from a helicopter, by V. L. Tsurikov
First Atlantic expedition of Academy of Sciences USSR (Earth Sciences--Oceanography, TT, v. 8, no. 8) on "Sergei Vavilov" and "Petr Lebedev", by I. E. Mikhal'tsev
Sixth scientific research voyage of submarine "Severyanka", by M. I. Ryzhenko and others.

Lisitsyn, A. P.
DISTRIBUTION OF AUTHIGENOUS SILICA IN THE BOTTOM DEPOSITS OF THE WESTERN PART OF THE BERING SEA (Raspredelenie Autigennogo Kremnezema v Donnykh Otlozheniyakh Zapadnoi Chasti Beringova Morya). [1962] [11]p. (foreign text included) 6 refs.
Order from OTS or SLA $1.60 62-16430

Trans. of Akademiya Nauk SSSR. Doklady, 1955, v. 103 [no. 3] p. 479-482.

DESCRIPTORS: *Dioxides, *Silicon compounds, Deposits, *Ocean bottom, *Bering Sea, Sedimentation, Aquatic animals.

Veselov, K. E., Kuzivanov, V. A. and others.
GRAVIMETRIC SURVEYING WITH STABLE SEA GRAVIMETERS IN THE SEA OF OKHOTSK AND IN THE PACIFIC OCEAN [AND] THE PROCESSING OF THE READINGS OF OVERDAMPED GRAVIMETERS DURING MEASUREMENTS AT SEA. 3 Apr 62 [40]p. 3 refs. JPRS: 13293.
Order from OTS or SLA $3.60 62-23786

Trans. of Prikladnaya Geofizika (USSR) 1961, no. 29, p. 136-167.

DESCRIPTORS: Oceanography, *Geophysical prospecting, *Hydrographic surveying, Instrumentation, *Gravity anomalies, Pacific Ocean.

Physics of the Atmosphere

TRACKING OF MISSILES AND SPACE VEHICLES: REVIEW OF SOVIET LITERATURE. Monthly rept. 12 for June 61. 30 June 61 [10]p. 9 refs. AID rept. 61-97; AD-260 426.
Order from OTS or SLA $1.10 61-27309

DESCRIPTORS: *Guided missiles, Surface to surface, *Satellite vehicles, *Tracking, Electromagnetic waves, Radio waves, Ionosphere, Moon, Shock waves, Electric fields, High frequency, Microwave oscillators, Guided missile tracking systems, *Electromagnetic properties, Nonlinear systems, *Radio astronomy, *Plasma physics, Bibliography, Magnetohydrodynamics, Ionospheric disturbances, MASERS, Bibliography.

Contents:
Electromagnetic problems
Ion clouds and ionospheric perturbations
Radio astronomy.

TRACKING OF MISSILES AND SPACE VEHICLES: REVIEW OF SOVIET LITERATURE. Monthly rept. no. 13 for July-Aug 61. 31 Aug 61 [12]p. 9 refs. AID rept. 61-124; AD-263 462.
Order from OTS or SLA $1.60 61-28479

DESCRIPTORS: *Plasma physics, Ionosphere, Perturbation theory, Ions, Electrons, Electric fields, Theory, Plasma oscillations, Magnetohydrodynamics, Electromagnetic waves, Magnetic fields. Guided missiles, Satellite vehicles, Tracking, *Radio astronomy, Solar noise, Extraterrestrial radio waves, Very low frequency, Meteors, Detection, Moon, *Masers, Ammonia, Frequency, Standards, Frequency stabilizers, Design, Ionospheric disturbances, Bibliography.

Contents:
Ion clouds and ionosphere perturbations
Radio astronomy.

Besprozvannaya, A. S.
THE MORPHOLOGY OF IONOSPHERIC MAGNETIC DISTURBANCES AT HIGH LATITUDES. 11 June 62, 2p. AID Rept. 62-76.
Order from OTS or SLA $1.10 62-25771

Abstract trans. of Problemy Arktiki i Antarktiki (USSR) 1960, no. 5, p. 47-52.

DESCRIPTORS: *Ionospheric disturbances, *Magnetic storms, Morphology, Arctic regions.

Krasnushkin, P. E.
ON THE THEORY OF TERRESTRIAL ATMOSPHERICS. 15 Aug 62 [10]p. 20 refs. JPRS: 14851.
Order from OTS or SLA $1.10 62-32458

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 144, no. 2, p. 334-337.

DESCRIPTORS: *Atmospherics, Theory, *Atmospheric electricity, Earth, Lightning, *Radio waves, Surfaces, Waveguides, *Ionosphere, Numerical analysis, Terrestrial magnetism, Atmosphere.

ENGINEERING

SOVIET ENGINEERING SCIENCE. 19 July 61 [32]p. JPRS: 4790.
Order from OTS or SLA $3.60 61-27276

Trans. of #Izmeritel'naya Tekhnika (USSR) 1961, no. 4, p. 1-4 and 58-64.
##Another trans. of p. 64 is available from OTS or SLA $1.10 in 62-13374, JPRS-11001, 9 Nov 61 [7]p.

DESCRIPTORS: *Engineering, Science, *Meteorology, Measurement, Instrumentation, Radiation instruments, *Radioactive isotopes, *Digital computers, Computers, Production, Conferences

Contents:
Some results of the work of the meteorological institutes in 1960, by L. M. Zaks
High precision measuring instruments, by P. P. Arapov
Soviet equipment using radioactive isotopes, by V. S. Merkulov
##Standing Seminar on Problems of Making and Using Measuring-Computing Equipment (no. 1) Leningrad, Dec 60, by V. S. Popov.

SOVIET LITERATURE ON PROTECTIVE STRUCTURES AND COMPONENTS. Rept. no. 2 on Soviet Developments in the Construction of Protective Structures and Components of Automatic Weapons Systems. 7 July 61 [17]p. 7 refs. AID rept. 61-99; AD-261 451.
Order from OTS or SLA $1.60 61-27698

DESCRIPTORS: *Underground structures, Protective coverings, *Shelters, Rock, Pressure, Geophysics, Cosmic rays, Construction, Recording devices, Automatic weapons, Mining engineering, Communication systems.

Contents:
Preparatory work
Construction methods
Communications.

SOVIET PRECISION EQUIPMENT: SELECTED TRANSLATIONS NO. 5. 30 June 61 [43]p. JPRS: 9533.
Order from OTS or SLA $4.60 62-23476

Trans. of Avtomatika Telemekhanika i Svyaz' (USSR) 1961 [v. 5, no. 1] (inside back cover) and p. 40-41; Promyshlennaya Energetika (USSR) 1961 [v. 16, no. 3] p. 62-63; Finansy SSSR, 1961, no. 2, p. 59-67; Vestnik Elektropromyshlennosti (USSR) 1961 [v. 32, no. 4] p. 1-5 and 74-76.

DESCRIPTORS: *Precision equipment, *Electronic equipment, Coding, *Electronic relays, *Semiconductors, *Triodes, Germanium, *Radiation instruments, Thickness, *Electrical equipment, Industrial plants, *Economics, *Automation, *Telemetering, *Communication equipment.
Contents:
Modernized code relays
High-voltage p-n-p germanium triodes, types P25 and P26
Industrial radioactivity instruments
Daily activities in the financial department of a plant
On increasing production of equipment for automation, telemetering, and communications at electrical-equipment factories
The intensification of scientific-research work in the area of economics in the electrical engineering industry
New products of the "Electroapparat" plant.

Kanov, A. A.
A HYDRO-MECHANISED METHOD OF CLEANING FAN DRIFTS IN COAL MINES. [1962] 3p. NCB Trans. A. 1875/SEH; [DSIR] NLL M. 3362.
Order from OTS or SLA $1.10 62-24826

Trans. of Mekhanizatsiya [i Avtomatizatsiya Proizvodstva] (USSR) 1959, v. 13, no. 4, p. 51.

DESCRIPTORS: *Mining engineering, Coal mines, *Fans, Drift, Cleaning.

For hydraulic cleaning of a fan drift a special pipe is led off the surface fire-fighting main and carried along the entire length of the dirft, valves being fitted at 10 metre intervals. A fire hose connected to each nut is equipped with pumps, the number of which depends on the length of the fan drift and the volume of settled dust. When the fan is not in operation (roughly once every fortnight) a jet of water at a pressure of 10-16 atm is directed by the fire pump at the settled dust, which is flushed along the fan drift in a special receiving channel to a sump near the drift mouth. A slurry pumping installation installed directly above the sump or next to is pumps the slurry into the pit water drainage tank or into a special ditch. The slurry pumping installation is equipped with VNN-18 pumps having a delivery of 18 cu m/hr and a head of 80 m; the pumps are fully automatic. (Author)

Shokrin, Z. O.
RECENT EXPERIENCE AT THE NO. 4 HYDRAULIC MINE, ORZHONIKIDZEUGOL TRUST. [1962] [8]p. NCB Trans. A. 1818/SEH: [DSIR] NLL M. 3361.
Order from OTS or SLA $1.10 62-24825

Trans. of Ugol' (USSR) [1959] v. 34, no. 2, p. 12-17.

DESCRIPTORS: Coal mines, *Mining engineering, *Hydraulic systems, Transports.

Slobodov, M. A.
THE METHOD OF RELIEF FROM LOAD IN STUDYING STRESSES IN THE DEPTH OF THE ROCK MASS [Opyt Primeneniya Metoda Razgruzki pri Issledovanii Napryazhenii v Glubine Gornogo Massiva]. [1962] [12]p. 7 refs. NCB Trans. A. 1819/JG; [DSIR] NLL M. 3357.
Order from OTS or SLA $1.60 62-24889

Trans. of Ugol' (USSR) 1958, v. 33, no. 7, p. 30-35. Another trans. is available from LC or SLA mi$2.40, ph$3.30 as 59-19817, RTS-1068, Sep 59 [14]p.

DESCRIPTORS: *Mining engineering, Engineering, *Rock, *Stresses, Load distribution.

For abstract see Technical Translations 3: 230, 1960.

Torskii, P. N.
WATER INFUSION IN THE COAL SEAM AS AN EFFECTIVE DUST SUPPRESSANT. [1962] [6]p. NCB Trans. A. 1896/SEH: [DSIR] NLL M. 3353.
Order from OTS or SLA $1.10 62-24890

Trans. of Ugol' Ukrainy (USSR) 1960 [v. 4] no. 9, p. 9-11.

DESCRIPTORS: *Mining engineering, *Coal mines, Water injection, Particles, Reduction, Boreholes, Permeability.

Aeronautical Engineering

Aleksandrov, A. Ya., Bryukker, L. E.
DESIGNING SANDWICH PANELS. 15 June 62 [325]p, 136 refs. FTD-TT-62-206.
Order from OTS or SLA $19.75 62-25826

Unedited rough draft trans. of mono. Raschet Trekhsloinykh Panelei, Moscow, 1960, 271p.

DESCRIPTORS: *Sandwich panels, Honeycomb cores, Construction, *Stability, Elasticity, Deformation, Stresses, Stability (Lateral), Stability (Longitudinal).

This book contains formulas and charts for strength calculations for flat and curved sandwich panels with various types of cores (uniform foamed-plastic cores, corrugated cores, etc.) under various conditions of constraint and for various combinations of applied loads. Data are given on the choice of optimum panel constants, and on strength tests for panels. The book is intended for design engineers, scientists, and students in the appropriate specialties. (Soviet publisher's note)

Alekseev, S. M., Balkina, Ya. V. and others.
ELEMENTS OF THE MOVEMENT OF A PARACHUTIST AND DESIGNING THE PARACHUTE. 18 Jan 62 [62]p. FTD-TT-61-466; AD-271 864.
Order from OTS or SLA $6.60 62-19256

Unedited rough draft trans. of mono. Sovremennye Sredstva Avariinogo Pokidaniya Samoleta, Moscow, 1961, chap. 3, p. 69-122.

DESCRIPTORS: *Parachutes, Ejection seats, Packs, Parachute fabrics, Design, Parachute jumping, Parachute descents, Load distribution, Mathematical analysis.

The basic principles of the working of safety parachutes were investigated to determine the basic elements of their design and construction. Parachute fabrics, aerodynamic loading during the parachute opening, and the length of the parachute risers are considered. (ASTIA abstract)

Kamov, N.
PROPELLER-WING. 27 Apr 62 [6]p. FTD-TT-62-571.
Order from OTS or SLA $1.10 62-25753

Unedited rough draft trans. of Kryl'ya Rodiny (USSR) 1961, no. 10, p. 26.

DESCRIPTORS: *Convertible airplanes, Design, Aerial propellers, Wings, Vertical take-off planes.

Kragel'skii, I. V., Chupilko, G. E., and Chichinadze, A. V.
PROCESSES OF FRICTION IN THE BRAKES OF AIRCRAFT WHEELS: SELECTION OF FRICTIONAL PAIRS. [1962] [193]p. 38 refs. F-TS-9117; AD-162 848.
Order from OTS or SLA $13.50 62-32701

Trans. of mono. Protessy Treniya v Tormozakh Aviakoles. Podbor Friktsionnykh Par, Moscow, 1955, 190p.

DESCRIPTORS: Jet planes, Landing gear, Aircraft, Landing, *Heat, Temperature, Tests, *Friction brakes, *Friction.

Topics discussed include: (1) Design and operation of wheel brakes in jet-aircraft landing gears, (2) Processes occurring during friction and wear, and the effect on them, (3) A review of existing methods for calculating heat processes and temperature characteristics during friction, (4) The calculation of the temperature operating conditions in a "miniature" friction machine and in a ring friction machine with complete overlap, (5) Results of an experimental study of samples of the friction material Ts-4-52 similar in volume and frictional area but differing in geometric configuration tested on a miniature machine and on the I-47 machine, and (6) Results of the laboratory testing of frictional pairs in actual brakes on an interia stand.

Chemical Engineering

CHEMICAL INDUSTRY OF COMMUNIST CHINA. 5 Oct 61 [45]p. JPRS: 8996.
Order from OTS or SLA $4.60 61-28872

Trans. of [Hua Hsüeh Kung Yeh (Chinese People's Republic) 1960, no. 2] p. 28-37 and 42-46.

DESCRIPTORS: *Chemical industry, *Ammonia, *Coal, Coke, Gases, *Carbides, *Sulfuric acid, *Sodium compounds, Sulfates, Carbonates, *Acaricides, *Insecticides, *Phenolic resins, *Furan resins, Ultraviolet spectroscopy, *Styrenes, *Butyl rubber.

Contents:
Experiments in making gas in a small synthetic ammonia plant by using anthracite to replace coke, by Ch'u Wei-chou
Experimental burning of Ching Hsi anthracite in place of coke to produce semi-water gas
Anthracite replaces coke in the production of carbide at the San Ming and Kan Nan chemical factories
Preliminary experience in 400-ton a year native contact process sulfuric acid production without acid washing
Using Glauber's salt as raw material to produce soda ash and sulfuric acid
Two new acaricides--TDN and chlorophenyl sulfone
Indigenous methods of producing ethyl malathion
Studies of the degradation of hardened phenol aldehyde resin to form soluble phenolaldehyde resin
Intermediate production of furanol and furanol resin, by Chang Ping-i and others
Ultraviolet spectrum method for determination of the styrene content of stryene-butadiene rubber, by Wei Hung-lieh and Ch'en Szu-tsai.

CONTROL OF THE PROCESS FOR CONTINUOUS PRODUCTION OF CHLORINE DIOXIDE. Aug 60, 6p.
Order from RIS $8.00 RIS rept. 97121

Trans. of German patent application F 25 093 (12i, 4) DAS 1 068 225, by Fabwerke Hoechst A.G., filed 21 Feb 58, pub. 5 Nov 59.

DESCRIPTORS: *Chlorine compounds, *Dioxides, Production, Control systems, Alkali metals, Alkaline earth metals, Chlorates.

PROCESS FOR CONVERTING METHANE INTO ACETYLENE BY THERMAL CRACKING UNDER VACUUM. Aug 60, 6p.
Order from RIS $10.50 RIS rept. 95839

Trans. of [German] patent application R 96 765, by Ruhrchemie A.G., n.d.

DESCRIPTORS: Hydrocarbons, *Methanes, Ethanes, Propanes, *Acetylenes, Propenes, Decomposition, Vacuum apparatus.

PROCESS FOR DEHYDRATION OF BARIUM HYDROXIDE HYDRATES. Aug 60, 6p.
Order from RIS $12.50 RIS rept. 97107

Trans. of German patent application K 35 580 (12m, 1) DAS 1 067 012, by Kali-Chemie A.G., filed 21 Aug 58, pub. date 15 Oct 59, pat. pub. 31 Mar 60.

DESCRIPTORS: *Barium compounds, *Hydroxides, *Hydrates, Dehydration, *Organic solvents.

PROCESS FOR PRODUCING ACETYLENE FROM HYDROCARBONS BY MEANS OF ELECTRIC ARC [Verfahren zur Gewinnung von Acetylen aus Kohlenwasserstoffen im Elektrischen Lichtbogen]. Aug 60, 5p.
Order from RIS $6.75 RIS rept. 95840

Trans. of [German] pat[ent] appl[ication] I 70 852 IVd/12o, by I. G. Farbenindustrie A.G. [Nov 41].

DESCRIPTORS: Hydrocarbons, *Acetylenes, *Electric furnaces, *Electric arcs, Electrodes.

PROCESS FOR PRODUCING POLYMERS SUITABLE AS ION EXCHANGERS. [1962] 9p.
Order from RIS $14.00 RIS rept. 61005

Trans. of German patent application B 43 298 (39c, 25/01) DAS 1 028 338, by Badische Anilin- & Soda-Fabrik A.G., filed 29 Jan 57, pub. 17 Apr 58.

DESCRIPTORS: *Polymerization, *Vinyl radicals, Nitrogen compounds, *Ion exchange resins, Polymers

PROCESS FOR PRODUCTION OF HIGH-ACTIVITY IRON CATALYSTS FOR AMMONIA SYNTHESIS. [1962] 5p.
Order from RIS $7.50 RIS rept. 97078

Trans. of German patent application V 13 709 (12k, 3) DAS 1 063 585, by VEB Leuna-Werke "Walter Ulbricht", filed 16 Jan 58, pub. date 20 Aug 59, pat. pub. 28 Jan 60.

DESCRIPTORS: *Ammonia, Synthesis, Waste gases, *Iron catalysts, Reduction.

PROCESS FOR PURIFYING SILICON [1962] 4p.
Order from RIS $7.50 RIS rept. 97076

Trans. of Ger[man] pat[ent] appl[ication] L 31 149 (12i, 38) DAS 1 065 826, by Licentia Patent Verwaltung G.m.b.H., filed 28 Aug 58, pub. date 24 Sep 59, pat. pub. 10 Mar 60.

DESCRIPTORS: *Silicon, Purification, Vaporization, *Electric furnaces.

PROCESS FOR PURIFYING SILICON. [1962] 6p.
Order from RIS $11.75 RIS rept. 97077

Trans. of German patent application P 19 591 (12i, 38) DAS 1 064 486, by Pechiney Compagnie de Produits Chimiques et Electrometallurgigues (France) filed 4 Nov 57, pub. 3 Sep 59 (priority: France, 5 Nov 56).

DESCRIPTORS: *Silicon, Purification, Melting, *Electric furnaces.

SOVIET INDUSTRIAL DEVELOPMENT: SELECTED TRANSLATIONS ON SOVIET CHEMICAL INDUSTRY (26). 17 July 62 [38]p. JPRS: 14492.
Order from OTS or SLA $3.60 62-25985

Trans. of Zemledelie (USSR) 1962 [v. 24] no. 5, p. 83-86; Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 4, p. 82-83; Partiinaya Zhizn' (USSR) 1962, no. 9, p. 37-40; Narodnoe Khozyaistvo Kazakhstana (USSR) 1962, no. 3, p. 35-37; and from Izvestiya (USSR) 1962, 29 Apr; 19 May; Ekononicheskaya Gazeta (USSR) 1962, no. 20(41) p. 24-25, 28, 31; no. 21(42) p. 19.

DESCRIPTORS: *Industrial production, *Chemical industry, *Agriculture, *Coke, Conferences, *Paints, Enamel coatings, *Fertilizers, *Economics, *Urea, Production, *Medicine, *Pipes, *Methanes, *Sulfuric acid, Laboratories, *Herbicides.
Contents:
Chemical industry in the service of agriculture, by M. K. Nadtocheeva
Conference of coke oven chemists of the Russian Federation, by A. G. Borts
Seminar on the exchange of production experience in water-emulsion paints and enamels, by I. V. Shibanov
The fertilizer industry in the Western Urals
Economic work should not lag behind technical progress, by N. Neimer
Production of carbamide at the Salavat petro-chemical combine, by G. Vakhitov and A. Klimenkov
Lagging output of medicines, by M. Klyaffe
Pipe winding unit
Model of a unit for the conversion of methane
Lagging construction of the sulfric acid shop at the Volkhov plant imeni Kirov, by I. Bersenev
Development of plant and shop laboratories, by G. Durass and N. Sludskii
Herbicides for agriculture, by Sh. Mamedov and A. Rzaev.

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET CHEMICAL MACHINE BUILDING (6). 2 Aug 62 [19]p. 2 refs. JPRS: 14713.
Order from OTS or SLA $1.60 62-32209

Trans. of Byulleten' Tekhniko-Ekonomicheskii Informatsii (USSR) 1962, no. 4, p. 11-13; Khimicheskoe Mashinostroenie (USSR) 1962 [v. 4] no. 3, p. 1-3, 38, 40, 44-46; and from Pravda, Moscow (USSR) 1962, 28 May.

DESCRIPTORS: Chemical engineering, Machines, *Centrifugal pumps, Enamel coatings, *Corrosive liquids, Industrial production, *Centrafuges, Plastics, *Valves, *Porous filters, Sulfur, Stirrers, Glycines, Compressors.

Contents:
Centrifugal enamelled pumps for aggressive media, by S. I. Solyanik
Radical improvements are needed in the chemical-machine building industry, by G. Gruznov
A new type of automatic settling centrifuge with axial filtration, by R. G. Kazakov
Using plastics in valves for aggressive media, by Yu. N. Forostyan and K. A. Khoroshevskii
A filter for molten sulfur, by S. S. Kadubovskii
New machines, apparatus, instruments.

Agafonov, A. V., Gel'ms, I. E., and Rabinovich, E. I.
CHOICE OF A CATALYST FOR CRACKING RESIDUAL PETROLEUM FRACTIONS AND AN INVESTIGATION OF CATALYST POISONING IN THE PROCESS. Oct 61, 6p. 8 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[iya] i Tekh[nologiya] Topliv i Masel (USSR) 1960 [v. 5] no. 5, p. 6-12.

DESCRIPTORS: *Petroleum, Decomposition, Catalysts, *Clays, Aluminates, Metal poisoning, Steam.

Ageev, N. V., Tabadse, F. N., and Karvelishvili, J. M.
ÜBER DIE HERSTELLUNG VON REINEN CHROMCHLORIDEN. (On the Production of Pure Chromium Chlorides). 6p. (text in German).
Order from T.I.B. $1.55

Blat, M. I., Bresler, S. E., and Ryabinin, Yu. N.
A NEW METHOD OF STORING LIQUIFIED GASES, tr. by Donald C. Rich and George F. Hill. 13 June 62 [13]p. 1 ref. AOMC Trans. nr 26-62.
Order from OTS or SLA $1.60 62-25576

Trans. of Zhurnal Tekhnicheskoi Fiziki (USSR) 1945, v. 15, no. 12, p. 916-923.

DESCRIPTORS: *Liquefied gases, *Storage, *Containers, *Gels, Foams, Insulating materials, Adsorbents.

Measurements of the mean coefficient of heat conductivity of aerogel powder were conducted at temperatures from +14.5 to -195.8°C and with various pressures of the air which filled the pores of the aerogel in the interval from 2×10^{-6} to 760 mm of mercury It was shown that thermal radiation is retarded by aerogel powder. Measurement of the adsorption characteristics of aerogel was made and its surface was determined. The possibility was established of the self-evacuation of aerogel during its cooling due to the adsorption of air on it. The possibility of constructing thin-walled thermally insulated vacuum vessels of an arbitrary shape for storing liquified gases was demonstrated. (Author)

Chudzikiewicz, Ryszard.
FACTORS AFFECTING THE DEGREE OF GRANULAR MATERIALS. Oct 61, 6p. 9 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Przem[ysl] Chem[iczny] (Czechoslovakia) 1961, v. [17] (40), p. 48-51.

DESCRIPTORS: Grains (Metallurgy), *Mixtures, Statistical analysis.

Djanaghian, G.
THE ELECTROTHERMAL PRODUCTION OF PHOSPHORUS (Production du Phosphore par la Voie Électrothermique). [1962] 48p. (8 figs. omitted).
Order from SLA $4.60 62-18059

Trans. of Chimie et Industrie (France) 1962, v. 87, no. 1, p. 43-62.

DESCRIPTORS: *Phosphorus, Production, *Electric furnaces, Ores, Chemical reactions, Towers (Chemistry), Slags, Electrostatic precipitators, Economics.

After a brief historical survey, the author indicates the basic principles of the manufacture of phosphorus in the electric furnace. The standard ternary-phase equilibrium diagram (from Rankin) was established for pure compounds. The author reviews the raw materials used and their preparation (at high or low temperature), and then studies the reactions occuring actually in the electric furnace. This study is followed by another part concerning the dedusting of the gases released from the furnace, phosphorus condensation, and the discharge of tail gases, slag, and ferro-phosphorus. This interesting report is completed with a detailed description of the equipment and economical considerations. (Author)

Dzhuvarly, Ch. M.
THE DIELECTRIC PROPERTIES AND STABILITY OF TRANSFORMER OILS (Issledovanie Dielektricheskikh Svoistv i Stabil'nosti Transformatornykh Masel) tr. by V. Burdon. 4 Aug 61 [13]p. (foreign text included) 6 refs. Trafford Park trans. no. 3004; NLL M.3469.
Order from OTS or SLA $1.60 62-23943

Trans. of Elektrichestvo (USSR) 1961, no. 3, p. 83-86

DESCRIPTORS: *Transformers, *Oils, Stability, Dielectric properties.

Data are presented on the electrical characteristics and the stability of transformer oils; and the connection between tan and the stability ways of improving the quality of transformer oils.

Gel'perin, N. I. and Kvasha, V. B.
MAINTAINING OPTIMUM TEMPERATURE CONDITIONS IN CHEMICAL REACTORS. Oct 61, 6p. 5 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1961, no. 1, p. 51-56.

DESCRIPTORS: *Towers (Chemistry), Rectifiers, Distilling plants, *Heat exchangers, Temperature.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
DESALINATION OF WATER. July 62, 9p. 131 refs. OTS Selective Bibliography SB-419, rev.
Order from OTS $0.10 OTS SB-419 Revised

DESCRIPTORS: Water, Sea water, *Desalination, *Bibliography.

Lists 131 foreign and domestic reports added to the OTS collection through July 62. Covers research on distillation, evaporators, geothermal energy, saline and sea water, solar distillation, solar energy, solar stills, freezing techniques, filtering, nuclear reactor processes, extraction methods, zone purification processes, ion-exchange processes, chelation, gas hydrates as demineralizing agents, electrical methods, desalting kits, and salinometers among other subjects. Includes 63 Office of Saline Water research and development contract reports issued to date. (Author)

Osipov, L. N. and Goldstein, D. L.
DIE SELEKTIVE HYDRIERENDE RAFFINATION KATALYTISCHER CRACKBENZINE. (The Selective Hydrogenating Refining of Catalytic Cracked Gasolines). 6p. (text in German).
Order from T. I. B. $1.55

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1959, v. 4, no. 8, p. 22-25.
Another trans. is available in English from ATS $7.50 as ATS-64L36R [1959] 5p.

DESCRIPTORS: *Hydrogenation, *Refineries, *Gasoline.

Panchenkov, G. M., Zhorov, Yu. M., and Yu, Yui-lin.
KINETIC ASPECTS OF THE CATALYTIC CRACKING OF HEAVY DISTILLATE STOCKS. Oct 61, 4p. 9 refs.
Order from ICE in v. 1, no. 1, $15.00

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1960, v. 5, no. 11, p. 4-8.

DESCRIPTORS: *Petroleum, Decomposition, *Catalysts, Reaction kinetics.

Plotnikov, V. N.
ERHÖHUNG DER BETRIEBSSICHERHEIT VON SAUERSTOFFANLAGEN BEI GLEICHZEITIGER SENKUNG DES STROMVERBRAUCHES. (Raising the Reliability of Oxygen Plants and Simultaneous Lowering of the Current Consumption). 2p. (text in German).
Order from T. I. B. $1.40

Trans. from Promyshlennaya Energetika (USSR) 1961 [v. 16] no. 4.

DESCRIPTORS: *Oxygen equipment.

Rogov, S. P., Danilevich, A. F. and others
HYDRORAFFINATION VON ÖLEN (Hydrorefining of Oils). 8p. (text in German).
Order from T. I. B. $1.55

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1961 [v. 6] no. 4, p. 23-27
Another trans. is available in English from ATS $7.75 as ATS-88N54R [1961] 5p.

DESCRIPTORS: *Refineries, *Oils.

Schönemann, Karl and Rinn, Karl.
PROCESS FOR PRODUCING BUTADIENE FROM METHANOL AND ACETYLENE. Aug 60, 4p.
Order from RIS $6.00 RIS rept. 95854

Trans. of [German] patent application P 54 857 IVd/12o, Sep 49.

DESCRIPTORS: *Butadienes, *Methanols, *Acetylenes, Catalysts, Oxides.

Varentsov, P. V. and Yufa, M. S.
THE MOVEMENT OF A BED OF SOLID PARTICLES IN ROTARY KILNS. Oct 61, 5p. 11 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[icheskoe] Mashinostroenie (USSR) 1959 [v. 1] no. 5, p. 22-26.

DESCRIPTORS: *Furnaces, Particles, Mathematical analysis, *Reynolds number, Solids.

Zelinskii, Yu. G. and Kafarov, V. V.
HYDRODYNAMIC CONDITIONS ON OPEN-GRID (TURBOGRID) TRAYS. Oct 61, 6p. 25 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1961, no. 2, p. 122.

DESCRIPTORS: Metal plates, *Hydrodynamics, Resistance, Bubbles, Oscillation, Towers (Chemistry).

Civil Engineering

Buch, D. and Ølgård, H.
BUILDING ACTIVITY IN GREENLAND WITH SPECIAL REFERENCE TO CONCRETE WORK (Byggeri i Grønland-Specielt med Hanblik på Betonarbejder) tr. by H. A. G. Nathan. Mar 62, 39p. NRCC Technical trans. 1020.
Order from NRCC $2.00 NRCC C-3962

Trans. of Beton-tekhnik (Denmark) 1958, v. 24, no. 1, p. 3-32 (G[rønlandske] T[ekniske] O[rganisation]. Publikation (Denmark) 1958, no. 2, 30p.).

DESCRIPTORS: *Concrete, *Construction, Canada, *Greenland, Civil engineering, Climatic factors, *Construction materials industry, *Structures, *Foundations (Structures).

Datei, C.
SOME CONSIDERATIONS ON THE SHAPE OF THE MERIDIAN SECTIONS OF "MORNING GLORY" SPILLWAYS. [1962] 11p.
Order from ATS $13.50 ATS-59P611

Trans. of l'Acque [sic] 1961, v. 29, no. 2, p. 27-33.

DESCRIPTORS: *Dams, Structures.

Galitskii, V. G.
THICKNESS OF THE BUFFER (LOOSENED) STRATUM DURING UNDERGROUND COMPACTION OF SOIL BY BLASTING (Tolshchina Bufernogo (Vzrykhlennogo) Sloya pri Glubinnom Uplotnenii Grunta Energiei Vzryva) tr. by June Stevens. Aug 61 [20]p. (foreign text included) 8 refs. Bureau of Reclamation Trans. 382.
Order from OTS or SLA $1.60 62-25130

Trans. of Osnovaniya, Fundamenty i Mekhanika Gruntov (USSR) 1961 [v. 3] no. 3, p. 14-16.

DESCRIPTORS: *Soils, *Soil tampers, Stratification, *Blast.

Measurements were made of the height of the stratum of soil loosened by the action of blasting in order to determine the thickness of the buffer stratum at the time of underground densification of the foundation.

The upper soil stratum up to a depth of 2 to 2.5 meters is not sufficiently compacted because of the rise and loosening under the action of the blast. In the design of underground compaction and utilization of standard cartridges with a diameter of 40 millimeters and an explosive weight of 50 grams for expansion of blast holes, it is necessary to assume the thickness of the buffer stratum to be not less than 2 meters. In the case of increasing the diameter of the cartridge up to 50 millimeters and its explosive weight up to 100 grams the thickness of the buffer stratum increases to 2.5 meters. In the case where the depth of the bottom of the foundation is less than the thickness of the buffer stratum, the part of the buffer soil stratum, which is located lower than the designated layout point of the foundation, requires additional compaction by heavy tampers.

Kramer, Franz Rek.
A CONCRETE SLAB BRIDGE PRESTRESSED BY THE BAUR-LEONHARDT METHOD. [1961] [11]p. 16 refs.
Order from SLA $1.60 61-18938

Trans. from Bauen und Wohnen (West Germany) 1950 [v. 5] Mar.

DESCRIPTORS: *Bridges, Design, Construction, Concrete, Structures, *Concrete, *Reinforced concrete, Stresses, Load distribution.

Nielsen and Rauschenberger.
FROST AND FOUNDATIONS: ELEMENTARY CONDITIONS FOR THE PLANNING AND CONSTRUCTION OF FOUNDATIONS IN AREAS WITH WINTER FROST AND PERMAFROST (Frost og Fundering: Elementaere Forudsaetninger for Projektering og Udførelse af Fundamenter til Områder med Vinterfrost og Permafrost) tr. by H. A. G. Nathan. Mar 62, 32p. NRCC Technical trans. 1021.
Order from NRCC $2.00 NRCC C-3973

Trans. of G[rønlandske] T[ekniske] O[rganisation]. Publikation (Denmark) 1957, no. 1, 20p.

DESCRIPTORS: *Permafrost, *Foundations (Structures), Construction, Canada, Climatic factors, Civil engineering, Greenland, Arctic regions, *Soils, Surface properties, Housing.

Reznikov, O. M.
DETERMINATION OF THE SHEAR STRENGTH OF SOILS IN PLACE BY THE VANE SHEAR METHOD (Opredelenie Prochnosti Gruntov v Usloviyakh Estestvennogo Zaleganiya Metodom Vrashchatel'nogo Sreza) tr. by June Stevens. Dec 61 [12]p. (foreign text included). Bureau of Reclamation Trans. 396.
Order from OTS or SLA $1.60 62-25132

Trans. of Osnovaniya, Fundamenty i Mekhanika Gruntov (USSR) 1961 [v. 3] no. 4, p. 7-8.

DESCRIPTORS: *Soils, Clays, Sand, *Shear stresses, Test methods.

Data and results of studies are presented concerning study of soils by the vane shear test method which were conducted in landslide sections of the Moldavsk railroad in the summer of 1959. Nine different vanes were studied in the laboratory under identical conditions. The first series of tests were conducted with vanes having diameters (d) of 25, 50, 75, and 100 millimeters (0.98, 1.97, 2.95, and 3.94 inches) and corresponding lengths (h) of 37, 75, 110, and 150 millimeters (1.46, 2.95, 4.34, 5.91 inches). The ratio of length to the diameter was 1.5. In the second series of tests, all the vanes had the same diameter, 75 millimeters (2.95 inches), but different lengths, 37, 75, 110, 150, and 225 millimeters (1.46, 2.95, 4.34, 5.91, 8.81 inches). The ratios of the length to the diameter were 0.5, 1, 1.5, 2, and 3. Tests were conducted with three soils having the following liquid and plastic limits: montmorillonite clay, 110 and 52; primary kaolin, 46.5 and 33.8; loess-like loam, 26.6 and 21.2.

Electrical and Electronic Engineering

CELESTIAL MECHANICS AND OPTIMUM METHODS. PT. 1. OPTIMUM METHODS AND DYNAMIC PROGRAMMING. Background rept. AID work assignment 8. 17 July 61 [38]p. 28 refs. AID rept. 61-103; AD-261 455.
Order from OTS or SLA $3.60 61-27702

DESCRIPTORS: *Control systems, *Servo systems, Mathematical analysis, Design, Synthesis, Bibliography, Automatic, Differential equations, Difference equations, *Celestial mechanics, Programming, Dynamics, Linear systems.

Consists of an introduction and 28 reviews based on USSR source materials for period 1956-60.

CONTROL, COMPUTERS AND AUTOMATION. 19 Feb 62 [15]p. 1 ref. JPRS: 12560.
Order from OTS or SLA $1.60 62-19170

Trans. of Ogonek (USSR) 1961 [v. 39] no. 49, p. 12-13 and 16-17.

DESCRIPTORS: *Control, *Digital computers, Computers, *Automation.

Contents:
One hundred million operations per second, by Dmitrii Zhukov
The brightness of thought, by Iya Meskhi.

ELECTROMAGNETIC AND ELECTROSTATIC POWER GENERATORS: A REVIEW OF SOVIET LITERATURE. Background rept. 1 Oct 61 [65]p. 111 refs. AID rept. 61-139; AD-265 440.
Order from OTS or SLA $6.60 61-28804

DESCRIPTORS: *Electrostatic generators, *Motor generators, *Generators, Bibliography.

Contents:
Direct-current generators
Alternating-current generators
Electrostatic power generators
Plants and research organizations
Personalities
Listing of inventions
Bibliography.

A HALL EFFECT MAGNETIC HEAD. Aug 60, 4p.
Order from RIS $6.50 RIS rept. 1126

Trans. of German patent application S 61653 (42g, 10/01) DAS 1 072 820, by Siemens & Halske A.G., filed 6 Feb 59, pub. 7 Jan 60.

DESCRIPTORS: *Hall effect, *Magnetic recording systems, Generators, Sound, Signals, Control systems, Auditory signals, Voltage.

METHOD OF MANUFACTURING EVAPORATING MASK FOR FORMING STRIPES IN A SEMICONDUCTOR ELECTRICAL DEVICE. 13 Sep 62.
Order from WBI $2.00

Trans. of main claims, including drawings, of Japanese patent publication no. 37-11614, by Sony Corp., pub. 21 Aug 62.

DESCRIPTORS: *Semiconductors, Electrical equipment, Design, Evaporation, Manufacturing methods.

SOURCES AND CONVERSION OF ENERGY IN SPACE-VEHICLE POWER SYSTEMS: A REVIEW OF SOVIET OPEN LITERATURE 1958-60. Preliminary rept. 26 July 61 [32]p. 55 refs. AID rept. 61-104; AD-261 456.
Order from OTS or SLA $3.60 61-27703

DESCRIPTORS: *Spaceships, *Satellite vehicles, *Power supplies, Electrical equipment, Semiconductors, Solar cells, Thermoelectricity, Production, Physical properties, Chemical properties, Design, Bibliography, Electric power production, Radioactive batteries, Solar energy, Materials, Purification.

Contents:
Foreword
Introduction
Early research and development
Current developmental trends
Research on power-system semiconductor materials
Conclusions
References.

THIS WILL INTEREST YOU TOO! 13 July 60, 2p.
USASIA: SC-175/60; JPRS: R-908.
Order from OTS or SLA $1.10 60-31379

Trans. of das Elektron (Austria) 1959 [v. 12] no. 6, p. 132-134.

DESCRIPTORS: *Television, Television communication systems, Television equipment, Television stations, Magnetic recording systems.

Aleksandrov, N. V., Kalinima, E. A., and Trubachev, S. G.
DIE ERMITTLUNG DER KORONAFESTIGKEIT ELEKTRISCHER ISOLIERWERKSTOFFE NACH VERSCHIEDENEN VERFAHREN. (The Determination of the Corona Strength of Electric Insulators by Different Methods). 16p. (Text in German).
Order from T.I.B. $1.85

Trans. of Elektrichestvo (USSR) 1961, no. 4, p. 61-68.

DESCRIPTORS: *Electrical corona, Electric insulation.

Andrianov, K. A., Volkov, V. A. and Khval'kovskii, A. V.
THE NATURE OF THE ELECTRICAL STRENGTH OF 'SAMICA' INSULATION (O Prirode Elektricheskoi Prochnosti Izolyatsii iz Slyudinitovykh Materialov) tr. by V. Burdon. 2 May 61 [26]p. (foreign text included). 5 refs. Trafford Park trans. no. 2994; NLL M. 3338.
Order from OTS or SLA $2.60 62-23931

Trans. of Elektrichestvo (USSR) 1960, no. 9, p. 73-80.

DESCRIPTORS: *Electric insulation, *Insulating materials, *Paper, *Mica, Impregnation, *Dielectrics

Data are presented on the electrical strength of unimpregnated samica paper; the electrical strength of impregnated samica paper; and the effect of the nature of the distribution of the mica flakes in the insulation on its electrical strength.

Bodin, S.
RESTORATION OF STORAGE BATTERIES [AND] SMALL SIZE HERMETICALLY SEALED BATTERIES (REFERENCE LEAFLET). 14 June 62 [12]p.
FTD-TT-62-357.
Order from OTS or SLA $1.60 62-32332

Unedited rough draft trans. of Radio, Moscow (USSR) 1961, no. 10, p. 39 and 59-61.

DESCRIPTORS: *Storage batteries, *Seals, Electrical equipment.

Cheryaev, R. N., Evstigneev, V. P. and others.
AN AUTOMATIC NAVIGATIONAL RADAR TRANSPONDER. 5 Feb 62 [6]p. FTD-TT-61-401; AD-271 847
Order from OTS or SLA $1.10 62-19253

Unedited rough draft trans. of Soviet patent 135519, appl. no. 647379-26, 15 Dec 59.

DESCRIPTORS: Design, Automatic, *Radar beacons, Radar navigation, Navigation.

The automatic navigational radar transponder is distinguished by the fact that in order to provide conjugation of the transponder with the "Neptun", "Don", and "Donets" marine radars and to identify navigation beacons, the transmitter has a smooth electronic wobbling inside the answer pulse and a multi-combination pulse-time coding. This same radar transponder, for the purpose of a constant control of the performance of the beam without using measuring instruments, has a transmitter with a forced switch-in and a branching of part of the power emitted to the receiver and to the control circuit signalling the normal operation of the transponder by lighting of an electric bulb. (Author)

Chiang, Hsi-yung.
ON THE THEORY OF OPTIMAL REGULATION. 26 Jan 62 [12]p. 3 refs. JPRS: 12218.
Order from OTS or SLA $1.60 62-15939

Trans. of #Prikladnaya Matematika i Mekhanika (USSR) 1961, v. 25, no. 3, p. 413-419.

DESCRIPTORS: Control, *Control systems, Theory, Calculus of variations.

A formula is obtained for the functional increment by a new method. It is shown that the problem of optimal regulation can be solved by the variational method, using Lagrangian multipliers. An analogy between the equations of optimum control and Lagrange's equations of analytical mechanics is elucidated. Some particular cases are considered.

Devaux, Pierre.
SOME MODERN PROBLEMS IN AUTOMOBILE LIGHTING (Questions d'Actualité sur l'Éclairage des Automobiles). [1962] [77]p. (foreign text included) 3 refs.
Order from SLA $7.60 62-16490

Trans. of Société Française des Électriciens. Bulletin, 1959, ser. 7, v. 9, no. 106, p. 575-596.

DESCRIPTORS: *Lighting systems, Signal lights, Power supplies, *Vehicles, *Automotive industry.

Several problems of automobile lighting are reviewed, in particular, yellow headlamps, signal lights, development of passing lights, with emphasis on the various factors affecting the operating life of automobile lights under practical conditions and especially, on voltage variations in the vehicles. (Author)

Döring, E.
PLATINUM-NICKEL: A NEW NOBLE CONTACT METAL FOR COMMUNICATION PURPOSES. [1962] 2p. (3 figs. 1 table, refs. omitted).
Order from SLA $1.10 52-18160

Trans. of ETZ [Elektrotechnische Zeitschrift. Ausgabe A. Zentralblatt für Elektrotechnik] (Germany) 1941, v. 62, no. 48/49, p. 953-955.

DESCRIPTORS: *Platinum alloys, *Nickel alloys, Conductivity, Communication equipment, *Electric connectors, *Switches.

Doroguntsev, V. G. and Ovcharenko, N. I.
ON USING THE HALL EFFECT FOR A POWER DIRECTIONAL RELAY (Nekotorye Voprosy Vypolneniya Rele Napravleniya Moshchnosti na Osnove Effekta Khalla) tr. by V. Burdon. 12 Jan 62 [27]p. (foreign text included) 9 refs. Trafford Park trans. no. 3094; NLL M. 3580.
Order from OTS or SLA $2.60 62-24679

Trans. of Elektrichestvo (USSR) 1961, no. 9, p. 57-63.

DESCRIPTORS: *Hall effect, Relays, *Electric relays, Polarized relays, Circuits.

The sensitivity of the power direction relay based on the Hall effect is limited: (1) by the high multiple of the change in the induction with a change in the voltage from the rated (100 v) to the minimum relay operating voltage (1 v); (2) by the relatively small value of the long-term permissible power dissipated on the resistance of the Hall plate; (3) by the low degree of sensitivity of the rapid-action d.c. amplifiers. The sensitivity of the relay can be increased by: (1) reducing the multiple of the induction change; (2) temporarily increasing the input power of the plate under relay operating conditions; (3) using a.c. amplifiers. (Author)

Ginzburg, V. M. and Belova, I. N.
PARABOLIC ANTENNA CALCULATIONS. 27 Mar 62 [220]p. 5 refs. USASIA Trans. Log. no. 1298 RR.
Order from OTS or SLA $14.50 62-23794

Trans. of mono. [Raschet Parabolicheskikh Antenn] "Sovetskoe Radio", 1959 [249p.].

DESCRIPTORS: *Parabolic antennas, Antennas, *Antenna radiation patterns, Mathematical analysis, Computers, *Reflectors, Design, Electric fields, Magnetic fields.

The text discusses a procedure and results of calculation of radiation patterns of widely used parabolic antennas with beam scanning by displacement of the radiator from the focus. The distinctive feature of the methods described in the text is the use of an electronic computer (BESM), permitting complex and sufficiently precise calculations. The use of such calculations leads to considerable savings in facilities and time and also substantially increases the quality of the designed antennas. The book is intended to radio engineers and may be useful to students of advanced courses at radio engineering institutes. (Author)

Grek, G. T.
HIGH-SPEED DIFFERENTIAL RELAY PROTECTION USING SEMICONDUCTORS (Bystrodeistvuyushchaya Differentsial'naya Zashchita s Primeneniem Poluprovodnikov) tr. by V. Burdon. 3 Aug 61 [20]p. (foreign text included) 6 refs. Trafford Park trans. no. 2998; NLL M. 3474.
Order from OTS or SLA $1.60 62-23945

Trans. of Elektrichestvo (USSR) 1960, no. 3, p. 14-20.

DESCRIPTORS: *Semiconductors, *Relays, Direct current, Sensitivity, Saturable transformers, *Polarized relays, Amplifiers, Circuits

An analysis is made of various differential protection systems and their respective advantages.

Hoffmann, W. H. and Lippmann, H.
PHOTOMULTIPLIERS, THEIR PROPERTIES AND APPLICATION FOR RESEARCH IN INDUSTRY (Fotovervielfacher, Eigenschaften und Anwendung in Forschung und Technik). 16 June 61 [19]p. 14 refs. JPRS: 9405.
Order from OTS or SLA $1.60 62-19177

Trans. of Nachrichtentechnik (East Germany) 1961 [v. 11] no. 2, p. 81-84.

DESCRIPTORS: *Photomultipliers, Industrial research, Electronic equipment, Nuclear physics.

Imhof, Alfred.
ARTIFICIAL RESIN INSTRUMENT TRANSFORMER. [1961] 13p. (17 figs. 1 table omitted) 8 refs.
Order from SLA $1.60 62-10548

Trans. of a German language article from an unidentified source, n.d.

DESCRIPTORS: *Plastics, Electrical equipment, *Transformers, Instrumentation, *Insulating materials.

Ioffe, A. F.
THE USE OF MAGNETIC RECORDING, CHAPS. 6-7. 18 Jan 62 [42]p. FTD-TT-61-84; AD-270 770.
Order from OTS or SLA $4.60 62-15822

Unedited rough draft trans. of mono. Primenenie Magnitnoi Zapisi, Moscow, 1959, p. 59-103.

DESCRIPTORS: Facsimile recording systems, Television equipment, Magnetic tape, *Magnetic recording systems.

Contents:
The use of magnetic recording in communications
The magnetic recording of television signals.

Karpov, R. G.
A DEVICE FOR OBTAINING THE QUOTIENT FROM THE DIVISION OF TWO PULSE TRAINS. 15 Feb 62 [5]p. FTD-TT-61-460; AD-272 536.
Order from OTS or SLA $1.10 62-19250

Unedited rough draft trans. of Soviet patent 130688, 13 May 59.

DESCRIPTORS: Instrumentation, *Information theory, Simulation, *Coding, *Inventions, Servomechanisms, Pulse generators, Electrical networks, Transducers, Oscillators.

The device for obtaining the quotient from the division of two pulse trains simulating a continuous change in physical values in the form of the frequency change of a pulse sequence differs in that the quotient is also obtained in pulse form. One of the inputs of the device (divisor) is connected through a phantastron frequency divider, sawtooth oscillator and smoothing network to one of the inputs of a comparison circuit. The second input of the device is connected to a servo voltage-divider, forming a servomechanism, which is connected to a keying circuit whose second input is connected to the second input of the device (dividend). (Author)

Kuzevalov, V. M.
EIN VERFAHREN ZUR BERECHNUNG DER CHARAKTERISTIKEN VON ASYNCHRONMASCHINEN MIT MASSIVEM ROTOR. (Procedure for the Computation of the Pecularities of Asynchron Machines with Solid Rotor). 9p. (text in German).
Order from T.I.B. $1.55

Trans. of Elektrichestvo (USSR) 1960, no. 9, p. 63-67.

DESCRIPTORS: *Induction motors.

Lange, F. H.
RESEARCH PROBLEMS IN RADIO TECHNOLOGY AND ELECTRONICS IN THE SOVIET UNION. 15 June 61 [17]p. JPRS: 8445.
Order from OTS or SLA $1.60 62-19231

Trans. of Nachrichtentechnik (East Germany) 1960 [v. 10] no. 10, p. 457-461.

DESCRIPTORS: *Conferences, *Electronics, *Radio, Radio broadcasting, Information theory, Antennas, Semiconductors, Radio receivers, Telegraph systems, Television, High frequency, Radio waves, Propagation, Computers, Ferrites, Remote control systems, Cybernetics.

The program is outlined of the annual meeting of the Popov Society for Radiotechnique and Electronics that was held from 16 to 20 May 1960 in Moscow. A list of the reports read (and their authors) is appended.

Lukashov, E. S.
CONFERENCE ON QUESTIONS OF LONG DISTANCE POWER TRANSMISSION, NOVOSIBIRSK, 31 JAN-2 FEB 61. [1962] 2p. [DSIR] NLL M. 6307.
Order from OTS or SLA $1.10 62-25945

Trans. of Akademiya Nauk SSSR. Sibirskoe Otdelenie. Izvestiya, 1961, no. 4, p. 120-122.
Other translations are available from OTS or SLA $2.60 in 62-13258, JPRS-10769, 25 Oct 61 [26]p. and from OTS $0.50 in 61-31653, JPRS-10494, 9 Oct 61, 10p.

DESCRIPTORS: Conferences, Electric cables, *Transmission lines, *Electricity.

Neumann, Helmut.
MAGNET TIP, WITH INTERCHANGEABLE MAGNET POLES, FOR SOUND RECORDERS. [1962] 7p.
Available on loan from SLA 62-18302

Trans. of German patent 1,017,807, cl. 42g 10/01, internat. cl. G 10j (S 27,548 VIIId/42g) by Siemens und Halske Aktiengesellschaft, filed 8 Mar 52, appl. made public and copy laid open 17 Oct 57.

DESCRIPTORS: *Magnetic recording systems, Sound, Recording systems, Magnetic cores, Magnet coils, Magnets.

On the detachable connecting plug the ends of the arms of the magnet core rest against a solid support against which the clamping device presses the ends of the arms and the interchangeable magnet poles resting thereon. (Author)

Office of Technical Services, Dept. of Commerce, Washington, D. C.
PRINTED ELECTRONIC CIRCUITS. July 62, 8p. 147 refs. OTS Selective Bibliography SB-496, supersedes CTR-249.
Order from OTS $0.10 OTS SB-496

DESCRIPTORS: *Printed circuits, *Electronic circuits, Circuits, *Bibliography.

Lists 147 references of reports on printed circuits added to the OTS collection during the period 1947 to July 1962. Covers research on manufacturing methods adhesives, metal to plastics bonding, zerographic processes, miniature and high temperature printed circuits among other subjects. (Author)

Office of Technical Services, Dept. of Commerce, Washington, D. C.
TRANSFORMERS (SUPPLEMENT TO CTR-336). July 62, 12p. 115 refs. OTS Selective Bibliography SB-487.
Order from OTS $0.10 OTS SB-487

DESCRIPTORS: *Transformers, Insulating materials, Moisture, Design, *Bibliography.

Lists 115 foreign and domestic references added to the OTS collection during the period January 1958 to July 1962. Covers research on insulating materials for transformers, moisture content, design criteria, and various types of transformers such as: pulse, step high temperature, miniature, solid state, transmission line, ceramic I-F and impedance matching transformers. (Author)

Office of Technical Services, Dept. of Commerce, Washington, D. C.
TRANSISTORS. Aug 62, 20p. 391 refs. OTS Selective Bibliography SB-433, suppl. 1.
Order from OTS $0.10 OTS SB-433

DESCRIPTORS: *Transistors, *Bibliography.

Lists 391 references of foreign and domestic research on transistors. Covers industrial preparedness studies, solidstate instrumentation, nuclear radiation resistant transistors, high temperature transistors, power transistors, transistor circuits, transistor noise performance, transistor cooling among other subjects. (Author)

Pashnin, A. I. and Pyastolov, A. A.
DRYING TRANSFORMERS WITH SHORT-CIRCUITED LOOPS BY ZERO-SEQUENCE CURRENTS (Sushka Transformatorov, Imeyushchikh Korotkozamknutye Kontury, Tokami Nulevoi Posledovatel'nosti) tr. by V. Burdon. 24 Apr 61 [10]p. (foreign text included). Trafford Park trans. no. 2804; NLL M. 3331.
Order from OTS or SLA $1.10 62-23925

Trans. of Elekt[richeskie] Stantsii (USSR) 1959 [v. 30] no. 12, p. 76-78.

DESCRIPTORS: Furnaces, *Transformers, Moisture, Dehydration, Circuits, Magnetic properties, Temperature.

An experiment is described in which seven transformers with short-circuited loops are dried.

Pontryagin, L. S., Boltyanskii, V. G. and others.
THE MATHEMATICAL THEORY OF OPTIMAL PROCESSES. 4 Sep 62, 522p. 28 refs. JPRS: 15089.
Order from OTS $7.00 62-11751

Trans. of mono. Matematicheskaya Teoriya Optimal'nykh Protsessov, Moscow, 1961, 391p.

DESCRIPTORS: Control, *Control systems, Synthesis, Mathematics, Theory, *Calculus of variations, Differential equations, Equations, Statistical processes, Programming

Contents:
The principle of the maximum
Proof of the principle of the maximum
Linear optimal high-speed actions
Problems
The principles of the maximum in the calculus of variations
Optimal processes in the case of limited phase coordinates
A certain statistical problem in optimal control

Popov, A. M.
PREVENTION OF DAMAGE TO NONMETALLIC CABLE SHEATHING BY RODENTS. [1962] 5p.
Order from OTS or SLA $1.10 62-18088

Trans. of Vestnik Svyazi (USSR) 1959, v. 19 no. 3(228) p. 37-38.
Another trans. is available from OTS $4.00 in 61-11846, JPRS-5996, 9 Jan 61, 264p.

DESCRIPTORS: *Radiofrequency cables, *Damage control, Plastics, *Electrical insulation, Rodents, *Rodenticides.

Prosin, A. V. and Tsvetkov, A. N.
RADIO-RELAY COMMUNICATION LINES. 2 Mar 62, 91p. JPRS: 12827.
Order from OTS $2.25 62-11597

Trans. of mono. Radio-Releinye Linii Svyazi, Moscow, 1961, 107p.

DESCRIPTORS: *Radio relay systems, *Radio communication systems, Transmission lines, Electromagnetic waves, Propagation, Telephones, Television, Urban areas, Visibility, Ionosphere, Electrical networks.

In this booklet we examine the problems of building radio-relay communication lines which enable us to organize multichannel interurban telephone systems and to put into practice exchange of television programs between cities. We expose the purpose, the principles of the work, and the principal systems of radio-relay lines which work within the range of direct visibility, as well as those which use the long-range tropospheric and ionospheric propagation of ultra-short waves. (Soviet Editor, V. I. Siforov)

Sokolovskii, S. A. and Shovgeniev, P. P.
EIN NEUES GERÄT ZUR UNTERSUCHUNG VON IMPULSVORGÄNGEN IN WICKLUNGEN. (A New Apparatus to Examine Impulse Processes in Windings) 7p. (text in German).
Order from T.I.B. $1.55

Trans. of Elektrichestvo (USSR) 1960, no. 10, p. 56-59.

DESCRIPTORS: *Induction systems. Solenoids.

Stepanov, B. M.
RADAR SCAN. 27 Mar 62 [46]p. USASIA Trans. Log no. 1299 RR.
Order from OTS or SLA $4.60 62-23793

Trans. of mono. [Radiolokatsionnyi Obzor] Moscow, 1959 [64]p.

DESCRIPTORS: Radar equipment, *Radar scanning, *Electronic scanners, *Radar stations.

The pamphlet "Radar Scan" is part of the Radar Engineering library issued by the Military Press. The library is designed for the use of Soviet officers having to do with the operation of radio engineering equipment. It may also be useful to a large public interested in detailed familiarization with the functioning of various units and components of radar stations. The pamphlet sets forth the major concepts involved in selection of the parameters of radar scan systems, and the most characteristic types of systems are examined. (Soviet publisher's note)

Vorob'ev, A. A., Vorob'ev, G. A. and others.
HIGH VOLTAGE TESTING EQUIPMENT AND MEASUREMENTS. 18 July 62 [690]p. 32 refs. MCL-1265.
Order from OTS or SLA $28.50 62-32532

Unedited rough draft trans. of mono. Vysokovol'tnoe Ispytatel'noe Oborudovanie i Izmereniya, Moscow, 1960, 583p.

DESCRIPTORS: *Voltage, *Test equipment, Measurement, Alternating current, Penetration, *Voltmeters, *Transformers, Coils, *Electrostatic generators, *Rectifiers, Circuits, *Pulse generators, Pulse transformers, *Cathode ray tubes, *Oscillographs.

Contents:
Methods and systems for penetrating high alternating voltage
Electrostatic generators and transformers
Rectifying circuits, cascade generators
Pulse voltage and current installations
Voltage measurements.

Vuco, Milan.
FINANCING PROJECTS IN THE FIELD OF ELECTRONIC INDUSTRY AND AUTOMATION IN YUGOSLAVIA. 26 July 61 [6]p. JPRS: 8634.
Order from OTS or SLA $1.10 62-19701

Trans. of Privredni Pregled (Yugoslavia) 1961 [v. 11] no. 14, p. 8.

DESCRIPTORS: *Electronic systems, Electronic equipment, Industry, *Automation, *Federal budgets, Money, Economics, Yugoslavia.

Walter, E.
PRACTICAL RECOMMENDATIONS CONCERNING GRAVIMETRIC DETERMINATION OF DUST IN FLOWING GASES WITH SPECIAL CONSIDERATION OF CYCLONE PROBE. [1962] 36p. (15 figs. omitted) 10 refs.
Order from SLA $3.60 62-16695

Trans. of Staub (West Germany) 1958, v. 18, no. 1, p. 3-14.

DESCRIPTORS: *Gas flow, Particles, Measurement, *Gravimetric analysis, Test equipment, Cyclones, Air intake filters, *Air conditioning equipment, *Meteorological equipment.

Yastrebtseva, T. N. and Galkin, O. P.
ON A METHOD OF QUENCHING THE FREE OSCILLATIONS OF QUARTZ [Ob Odnom Metode Gasheniya Svobodnykh Kolebanii Kvartsa]. [1961] 7p. 1 ref. MDF I-103.
Order from OTS $0.50 62-11279

Trans. of Radiotekhnika (USSR) 1955, v. 10, no. 7, p. 69-73.

DESCRIPTORS: *Quartz, *Oscillations, *Damping, Electrodes, Feedback, Radar equipment, Calibration.

An experimental investigation of the quenching of the free oscillations of quartz is cited, when the electrodes of the quartz plate are connected to the input of a system with negative feedback. Quartz oscillations of 8×10^5 cps could be quenched for a specific gain and phase shift in not more than one hundred periods. The method of quartz damping analyzed can be used as the basis of a circuit in which accurate timing marks must be obtained during the intervals between impulses which follow each other without maintaining any rigid periodicity.

Zolotarev, P. A. and Bocharov, V. I.
THE NB-412M TRACTION MOTOR OF THE N60 A.C. LOCOMOTIVE (Tyagovyi Dvigatel' NB-412M Elektrovoza Peremennogo Toka Serii N60). 9 June 61 [13]p. (foreign text included). Trafford Park trans. no. 2977; [DSIR] NLL M. 3466.
Order from OTS or SLA $1.60 62-24818

Trans. of Elekt[richeskaya i] Teplovoz[naya] Tyaga (USSR) 1960, no. 12, p. 19-22.

DESCRIPTORS: *Locomotives, Alternating current, *Electric motors, Rectifiers, Construction.

Information is presented on: the main characteristics of the NB-412M traction motor; the thermal loads of the motor; the commutating loads of the motor; the construction of the motor; control dimensions and tests.

Mechanical Engineering

SHAFT MOUNTED IN A TUBE COAXIALLY THEREWITH, tr. by H. U. 10 June 60, 4p. (4 figs. omitted).
Order from OTS or SLA $1.10 61-13842

Trans. of Swiss patent 232,973, cl. 96b, by Rheinmetall-Borsig Aktiengesellschaft of Germany, appl. 1 Feb 43, registered 30 June 44, pub. 16 Sep 44 (priority: German Reich, 25 Mar 42).

DESCRIPTORS: *Shafts, Installation.

The shaft is characterized in that, a plurality of obliquely slotted spring rings are arranged between the shaft and the tube on the periphery of the shaft.

Kalnin', V.
A TRAVELING REFRIGERATOR. 19 Apr 62 [3]p. FTD-TT-62-629.
Order from OTS or SLA $1.10 62-25755

Unedited rough draft trans. from Izvestiya (USSR) 1962, 21 Jan, p. 2.

DESCRIPTORS: *Refrigeration systems, *Refrigerator cars.

A new refrigerator train is coming to replace the refrigerator cars. It was developed at the Riga Electrical Machine Plant by Ivar Dumin'sh, Aleksandr Laskis, Ivar Ran'tis and Khariy Kal'niyetis. In the train there are four refrigerator cars and an electric-power-station car. Special devices will lower the temperature, and electric heaters will be used to raise the temperature. (Author)

Kosterin, S. I., Semenov, N. I., and Tochigin, A. A
THE RELATIVE VELOCITIES OF STEAM-WATER FLOWS IN VERTICAL UNHEATED TUBES (Otnositel'nye Skoresti Parovodyanykh Techenii v Vertiakl'nykh Neobogrevaemykh Trubakh). Dec 61 [19]p. 2 refs. RTS 1957.
Order from OTS or SLA $1.60 62-13917

Trans. of Teploenergetika (USSR) 1961 [v. 8] no. 1, p. 58-65.

DESCRIPTORS: *Steam, *Water, Mixtures, *Hydrodynamics, Velocity, Pressure, Gamma rays, Radiation effects, Experimental data.

Numerous experimental data confirm that a relationship exists between the instantaneous steam-water ratio and three basic criteria. These criteria are the true steam-water ratio, the effective pressure and the Fr of the mixture. The influence of the tube diameter on the instantaneous ratio value is expressed satisfactorily by variations in the Fr value of the mixture. For upward flow of a steam-water mixture in vertical tubes with natural wall roughness, instantaneous ratio is always lower than the true steam-water ratio. (Author)

Rubanovich, D. I.
INSTALLATION FOR REMOVAL OF OIL AND MOISTURE FROM COMPRESSED AIR (Maslovlagootdelitel'naya Ustanovka dlya Szhatogo Vozdukha). [1962] [6]p. AERDL T-1584. AD-276 805.
Order from OTS or SLA $1.10 62-25343

Trans. of [Promyshlennaya Energetika (USSR) 1961, v. 16, no. 6, p. 30-33].

DESCRIPTORS: *Compressed air, Air, Oils, Moisture, Separation, *Compressors, *Refrigeration systems.

Ordnance, Missiles, and Satellite Vehicles

FURTHER DETAILS ON GAGARIN FLIGHT. 27 July 61 [8]p. 5 refs. AID rept. 61-113; AD-261 454.
Order from OTS or SLA $1.10 61-27739

DESCRIPTORS: *Satellite vehicles, *Space flight, Booster rockets, Fuel consumption, Re-entry aerodynamics, Manned, Thrust, Spaceship cabins, Thermal insulation, Re-entry vehicles, Spaceships, Satellite vehicle trajectories, Rocket motors.

(See also 61-31679)

THUS IT WILL BE (THE MOST IMPORTANT FEATURE OF SPACE ENGINES). tr. by George N. Kasachkoff and George F. Hill. 29 May 62 [6]p. AOMC Trans. nr-24-62.
Order from OTS or SLA $1.10 62-25115

Trans. from Komsomol'skaya Pravda (USSR) 1962, 11 Feb, p. 2.

DESCRIPTORS: Spaceships, Satellite vehicles, *Rocket motors, Thrust, Design.

Nearly half a century ago, the basic principles of rocket motors, fuel requirements and even some fundamental design configurations of engines were predicted by K. E. Tsiolkovskiĭ. Tsiolkovskiĭ's ideas were developed and improved in the work of talented rocket enthusiasts Yu. V. Kondratyuk, F. A. Tsander and others. Construction of the first Soviet liquid-fueled rocket motor was completed in 1930. This first Soviet experimental rocket motor was designed to operate on oxidizers of nitrogen tetroxide and liquid oxygen, while methylbenzene served as fuel. The steel motor had 93 components and its generated thrust reached 20 kilograms. Further studies of high thrust processes, occurring in a combustion chamber with a nozzle, led to a series of improvements in the design of liquid rocket engines. Six rocket engines, totalling the equivalent of twenty million horsepower hurled the space ship "VOSTOK 1" with a payload of 4725 kilograms into space on an assigned orbit at the speed of 28,000 kilometers per hour. The path to the creation of the rocket engines was full of thorns. Our searches and experiments did not always lead to the desired advance. There were great difficulties and not every trial of a new design was crowned with success. (Extracted)

TRACKING OF MISSILES AND SPACE VEHICLES: REVIEW OF SOVIET LITERATURE. Monthly rept. no. 14 for Sep 61. 29 Sep 61 [10]p. 9 refs. AID rept. 61-140; AD-265 373.
Order from OTS or SLA $1.10 61-28796

DESCRIPTORS: *Air intelligence, *Guided missiles, *Rockets, *Spaceships, *Tracking, *Bibliography, *Radio astronomy, Ionosphere, Electromagnetic waves, Electron beams, Atmospherics.

Contents:
Electromagnetic problems
Ion clouds and ionosphere perturbations
Radio astronomy.

Leikin, G. A.
ON THE INFLUENCE OF TIDAL FRICTION ON THE MOTION OF THE EARTH'S SATELLITE. [1958] 6p. 3 refs. MDF L-121.
Order from OTS $0.50 62-11305

Trans. of Astron[omicheskii] Zh[urnal] (USSR) 1958, v. 35, no. 2, p. 297-300.

DESCRIPTORS: *Satellite vehicle trajectories, Geophysics, *Tides, *Orbital flight paths, *Ocean waves.

The influence of tidal friction on the motion of an earth satellite was obtained directly without estimating the braking of the satellite and qualitative considerations. The change in the distance from the earth was related to the tidal wave caused by the satellite which created a couple which affected the satellite motion. The satellite orbit was considered to be circular and equatorial, and the earth was assumed to be a solid sphere covered by an ocean of uniform depth over its entire surface. These assumptions permitted study of the tidal wave which formed under the effect of the satellite, the magnitude of the moment, and the resultant change in satellite orbit. Expressions were derived for the tide-forming potential, the height of the tidal wave at the surface of the earth, the moment resulting from the attraction between the mass of the earth and satellite, the energy of the satellite motion expended in displacing the tidal wave, and the descent time.

Onis'ko, N. I., Adushkin, V. V. and others.
THE MOVEMENT OF A FREE SURFACE OF HOMOGENEOUS GROUND DURING AN UNDERGROUND EXPLOSION [AND] DEMOLITION OF A SOLID BY AN EXPLOSION. 7 Mar 62 [39]p. 7 refs. FTD-TT-62-74; AD-273 402.
Order from OTS or SLA $3.60 62-23663

Unedited rough draft trans. of Zhurnal Prikladnoi Mekhaniki i Technicheskoi Fiziki (USSR) 1961, no. 4, p. 82-93 and 94-101.

DESCRIPTORS: *Seismic waves, Propagation, *Underground explosions, Wave transmission, Solids, *Demolition.

The problem on the propagation of seismic waves in a semi-unbounded elastic medium from an unstationary, spherically symmetric source is examined. This problem was set up in connection with the study of wave processes formed in the ground during underground explosions. The main attention is devoted to the construction of theoretical oscillograms of the displacement of points on a free surface of a medium. (Onis'ko et al.) We examine the demolition of a Plexiglas block by the explosion of a spherical charge inside it. A general picture of destruction is obtained and the time characteristics of the process are evaluated. During demolition (both in the inside zone and with the shatter) it is necessary to distinguish two aspects: the conception of cracks and their development. The space-time characteristics of the demolition process substantially depend on the behavior of the material in the immediate vicinity of the explosion point. The presence of a plastic zone near the discharge is equivalent to an increase in the dimensions of the source radiating an elastic wave.

Yasinskii, F. G.
RANGE DURING THE GLIDING OF A WINGED FLYING MACHINE WITH COSMIC VELOCITIES. 24 Apr 62 [11]p. 5 refs. FTD-TT-62-3; AD-276 350.
Order from OTS or SLA $1.60 62-25728

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1961, no. 3, p. 31-37.

DESCRIPTORS: *Re-entry vehicles, Wings, Spaceships, Energy, Lift, Equations of motion, Velocity, Orbital flight paths, Mathematical analysis, Space flight.

The problem of gliding range is analyzed under the assumption that the power installation is not in operation. A case is considered quasistationary immersion of an apparatus in the atmosphere, at which the axial overloads do not exceed four-fifths of a unit.

Zaidel', R. M.
STABILITY OF DETONATION WAVES IN A GASEOUS MIXTURE. 29 Jan 62 [10]p. 4 refs.
FTD-TT-61-348; AD-271 859.
Order from OTS or SLA $1.10 62-19281

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 136, no. 5, p. 1142-1145.

DESCRIPTORS: *Explosions, *Detonation waves, *Shock waves, Stability, Mathematical analysis, Perturbation theory.

The stability of the detonation wave with respect to small perturbations is examined.

Sanitation and Safety Engineering

Bongard, W.
A GRAPHIC METHOD OF DETERMINING THE FIRE RESISTANCE OF A STRUCTURE. [1962] 12p. 7 refs.
Order from SLA $1.60 62-18016

Trans. of der Bauingenieur (West Germany) 1961, v. 36, no. 2, p. 66-69.

DESCRIPTORS: Fires, Resistance, Structures, *Sprinklers, Mathematical analysis, *Buildings, *Fire safety.

Karelin, Ya. A. and Vorob'eva, G. I.
BIOCHEMISCHE REINIGUNG VON RAFFINERIE-ABWÄSSERN. (Biochemical Purification of Refinery-waste-water). 9p. (text in German).
Order from T. I. B. $1.55

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1957 [v. 2] no. 10, p. 29-34.

DESCRIPTORS: *Chemical waste, Sanitary engineering.

Laikhtman, D. L. and Timofeev, M. P.
METHODS OF COMPUTING EVAPORATION FROM THE SURFACE OF LIMITED WATER RESERVOIRS (O Metodike Rascheta Ispareniya s Poverkhnosti Organichennykh Vodoemov) tr. by M. Slade. [1962] [10]p. (foreign text included) 6 refs. [CSIRO] Trans. no. 3260.
Order from OTS or SLA $1.10 62-23316

Trans. of Meteorologiya i Gidrologiya (USSR) 1956, no. 4, p. 19-24.

DESCRIPTORS: *Water, Water supplies, *Hydraulic reservoirs, *Evaporation, Determination.

Office of Technical Services, Dept. on Commerce, Washington, D. C.
WATER POLLUTION AND WATER PURIFICATION (INCLUDING RADIOACTIVE CONTAMINATION AND DECONTAMINATION). July 62, 13p. 179 refs. OTS Selective Bibliography SB-498.
Order from OTS $0.10 OTS SB-498

DESCRIPTORS: Water, *Water supplies, *Contamination, Radiological contamination, Decontamination, Impurities, *Purification, *Bibliography.

Lists 179 domestic and foreign references on pollution and purification of water added to the OTS collection up to July 15, 1962. Includes reports on: drainage and hydrology pertaining to pollution; impurities, including radioactive elements, and impurities from industrial plants; microorganisms; radiation effects on water; radioactive contamination and decontamination including radioactive fall-out; sanitary engineering and processes for purifying; sedimentation; sewage and sewage disposal; waste disposal; water supplies. (Author)

Putilina, N. T.
ÜBER BIOLOGISCHE VERFAHREN ZUR REINIGUNG VON PHENOLHALTIGEN ABWÄSSERN. (On Biological Procedures for Clearing of Phenol Containing Wastewater). 6p. (text in German).
Order from T.I.B. $1.55

Trans. of Gigiena i Sanitariya (USSR) 1959, v. 24, no. 1, p. 74-76.

DESCRIPTORS: Biochemistry, *Chemical waste, *Water, Phenols, Purification.

Vilmon, Gyula and Degen, Imre.
PROTECTION OF PUBLIC DRINKING-WATER SUPPLIES IN HUNGARY. 26 June 61 [11]p.
JPRS: 4724.
Order from OTS or SLA $1.60 62-19376

Trans. of Vizugyi Ertesito (Hungary) 1961, v. 8, no. 8, p. 60-64.

DESCRIPTORS: *Sanitary engineering, *Water supplies, Hungary, Public health.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

EIN NEUES GERÄT ZUR PRÜFUNG VON FISCHKONSERVEN-PACKUNGEN AUF DICHTIGKEIT. (A new Equipment for Testing Fish-cans for leaks). 4p. (text in German).
Order from T.I.B. $1.40

Trans. of Rybnoe Khozyaistvo (USSR) 1961, v. 37, no. 1, p. 39-43.

DESCRIPTORS: *Test equipment, *Fishes, *Packaging.

Wierzchowski, Josef.
SCIENTIFIC CONGRESS ON FOOD HYGIENE, BRNO, Oct 60. 15 May 61 [7]p. JPRS: 4615.
Order from OTS or SLA $1.10 62-19391

Trans. of Farmacja Polska, 1960, v. 16, no. 23/24 [p. 479-481].

DESCRIPTORS: *Conferences, *Food, Czechoslovakia, Nutrition, Diet, Preservation, Public health.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

CENTRIFUGAL GOVERNOR FOR COMBUSTION POWER MACHINES, FOR MOTORS, WITH POWER-BOOSTER LOCATED AXIALLY WITH THE AXLE OF ROTATION OF THE TRANSMISSION. July 60, 2691 words.
Order from K-H K-H 10041 a

Trans. of Danish patent 63 310 [pub. 1946].

DESCRIPTORS: *Internal combustion engines, *Speed regulators, Boosters, Power, Transmissions.

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET METALWORKING EQUIPMENT (26). 17 Aug 62 [27]p. JPRS: 14873.
Order from OTS or SLA $2.60 62-32449

Trans. of Standartizatsiya (USSR) 1962, no. 3, p. 17-20; no. 5, p. 52-54; and from Ekonomicheskaya Gazeta (USSR) 1961, no. 13, p. 12; no. 15, p. 29.

DESCRIPTORS: Industrial research, *Metal-forming presses, Standardization, Gears, *Cutting tools, *Milling machines, Production, Automatic, Standards, *Forge presses, Industrial equipment, *Precision finishing, Machine tools.

Contents:
Standardization of gear cutting semiautomatic milling machines included as components in automatic production lines, by V. Ya. Chernevich

New state standards (press forging equipment) by A. V. Lopatin
What stands in the way of creating and introducing new equipment, by N. Kabatov
Gear rolling, by E. Temchin.

Fleck, K.
WHIRLWIND AIR SEPARATORS (Streu Windsichter). Aug 62.
Order from S. Muller, 1614-27 Street, Orlando, Fla. $46.50

Trans. of Zement-Kalk-Gips (West Germany) 1960 [v. 13] no. 11, p. 501-522.

DESCRIPTORS: *Air, Separation, Machines.

Kol'chenko, A. V.
ON TURBINE DRILLING WITH LOWERED PRESSURE AFTER THE TURBINE [O Turbinnom Burenii's Ponizhennym Burenii s Ponizhennym Davleniem Posle Turbiny]. [1961] 4p. 1 ref. MDF K-126.
Order from OTS $0.50 62-11590

Trans. A[kademiya] N[auk] SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya, 1956, no. 4, p. 139-141.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 59-10362, CTS-296 [1958] 2p.

DESCRIPTORS: *Drilling machines, Operation, Pressure, Reduction, Turbines, Pumps.

Methods of reduction of operating pressures of turbodrills are proposed. Present equipment is characterized by very high pressures at the pumps which bring about a drop in pressure of 40-50 atm at the turbine and pressure head losses throughout the entire system: maximum drilling depth for a given pump is inversely proportional to the pressure head losses.

Zakharenko, I. P.
INFLUENCE OF THE AMOUNT OF BACK TAPER OF TAPS ON THE QUALITY OF THE THREAD CUT (Vliyanie Zatylovaniya Metchikov po Profilyu na Kachestvo Narezaemoi Rez'by) tr. by V. Losovski. [1962] [9]p. (foreign text included). [CSIRO] Trans. no. 5640.
Order from OTS or SLA $1.10 62-32241

Trans. of Stanki i Instrument (USSR) 1958 [v. 29] no. 4, p. 28-30.

DESCRIPTORS: *Taps, *Cutting tools, *Screw threads, Nuts (Mechanics), Surfaces, Finishes, Coolants, Quality control.

Experiments showed that the normal wear of the tap does not affect the effective diameter of the nut; there is also no regular trend in the variation of the effective diameter of the thread cut with the tap wear. It was impossible to detect such a trend using a set of thread gauges with increments in diameters of 0.005 and 0.01 mm from one gauge member to the next. The magnitude of the back taper of thread had no significant influence on the effective diameter of the thread cut. The effective diameter of the nuts, cut with taps before resharpening, was in most cases larger than the effective diameter of the first nut, although sometimes the opposite might be observed. Variations in the back taper did not have a significant influence upon the finish of the nut thread. With the increase in the back taper the surface finish of the thread slightly deteriorates at first, then improves, and with an optimum amount of the back taper (K=0.07 mm), corresponding to the longest tool life of the taps, the peak-to-valley values of the microprofile become a minimum. In most cases the surface finish of the thread of the first nut is better than that of the following nuts.

Engines and Propulsion Systems

SOVIET NUCLEAR INSTRUMENTATION AND CONTROL FOR PROPULSION. Monthly rept. no. 6 for 10 May-10 July 61. 15 Aug 61 [14]p. 6 refs. AID rept. 61-120; AD-263 667.
Order from OTS or SLA $1.60 61-28485

DESCRIPTORS: *Nuclear physics laboratories, *Nuclear propulsion, Radiation instruments, *Gamma rays, Gamma neutron reactions, Gamma ray spectrometers, Scintillation counters, Time interval counters, Count rate meters, *Pulse discriminators, Pulse amplifiers, Pulse analyzers, *Valves, *Cloud chambers, Electrodes, Metals, *Capacitors, Electric discharges, *Ionization chambers, *Electromagnetic shielding, *Pressure capsules, Argon, Electrodes, Voltage, *Cloud chambers, Pressure regulators, Design, *Nuclear power plants, *Reactor cores, Transducers, Gamma emission, *Neutron spectrum, *Graphite-moderated reactors, Gases, High-temperature research.

Contents:
Detectors
Miscellaneous related subjects.

SOVIET NUCLEAR INSTRUMENTATION AND CONTROL FOR PROPULSION. Monthly rept. no. 7 for 10 July-10 Aug 61. 15 Sep 61 [18]p. 16 refs. AID rept. 61-130; AD-265 369.
Order from OTS or SLA $1.60 61-28794

DESCRIPTORS: *Nuclear propulsion, Instrumentation, Control, *Reactor hazards, Control rods, *Reactor safety systems, Detectors, Design, *Scintillation counters, Thermal neutrons, *Neutron detectors, Neutron counters, Effectiveness, Boric acids, Boron, Radioactive isotopes, Zinc compounds, Sulfides, Silver, *Flowmeters, *Pressure regulators, *Pneumatic servomechanisms, Porous filters, Operation, *Nuclear power plants, Stainless steel, Aluminum alloys, Corrosion, Deposits, Cleaning, Chemical milling, Solutions, Chromium compounds, Oxides, Phosphoric acids, Laboratories, Polymers, Vinyl chlorides.

Contents:
Dectors
Control components
Pneumatic
Miscellaneous related subjects.

SOVIET NUCLEAR INSTRUMENTATION AND CONTROL FOR PROPULSION. Monthly rept. no. 8 for 10 Aug-10 Sep 61. 13 Oct 61 [19]p. 3 refs. AID rept. 61-146; AD-266 484.
Order from OTS or SLA $1.60 62-13287

DESCRIPTORS: Nuclear propulsion, Instrumentation, Control, *Nuclear power plants, Design, *Gamma emission, Scintillation counters, Measurement, *Dosimeters, *Reactor control, Control systems, Mathematical analysis, Differential equations.

Contents:
Detectors
Miscellaneous related subjects.

Behrman, L. D.
FRAGEN DER WARMEBERECHNUNG VON DAMPFTURBINENKONDENSATOREN. (Thermo-calculation of Steam-turbine Condensers). 16p. (Text in German).
Order from T. I. B. $1.85

Trans. of Energomashinostroenie (USSR) 1961 [v. 7] no. 1, p. 18-22.

DESCRIPTORS: *Turbines, *Steam condensers.

Berman, L. D., Rubinshtein, Ya. M., and Shcheglyaev, A. V.
CHOICE OF THE OPTIMUM AREA OF EXHAUST CROSS-SECTION AND NUMBER OF SHAFTS FOR STEAM TURBINES OF 300 TO 600 MW CAPACITY (K Vyboru Optimal'nykh Razmerov Secheniya Vykhlopa i Chisla Valov Parovykh Turbin Moshchnost'yu 300-600 Mvt). 9 May 61 [21]p. Trafford Park trans. no. 2938; [DSIR] NLL M. 3356.
Order from OTS or SLA $2.60 62-24887

Trans. of Teploenergetika (USSR) 1960 [v. 7] no. 10, p. 14-22.

DESCRIPTORS: *Steam turbines, Turbines, Design, Shafts, Economics.

An examination is made of the comparative economics of the application of 300-600-mw turbines with different exhaust cross-sections in the main regions of power engineering construction of the U. S. S. R.

Bershadskii, V. L. and others.
ELECTRIC DRIVE FOR THE SCREW OF THE ATOMIC ICE-BREAKER "LENIN". [1962] [16]p. 2 refs. NLL M. 3543.
Order from OTS or SLA $1.60 62-24641

Trans. of Elektrichestvo (USSR) 1959, no. 10, p. 50-56.

DESCRIPTORS: *Marine propellers, *Electric motors, *Power drives, Ships, *Icebreakers, *Nuclear propulsion, Steam turbines.

Deich, M. E.
SINGULARITIES OF THREE-DIMENSIONAL FLOW IN CASCADES. [1961] [11]p. MDF D-105.
Order from OTS or SLA $1.60 62-15927

Trans. of mono. Tekhnicheskaya Gazodinamika (Osnovy Gazodinamiki Turbin) (Technical Gasdynamics/Basic Turbine Gasdynamics) Moscow/Leningrad, 1953, chap. 7 [sect.] 15, p. 412-420 and table of contents.
Complete translations of chap. 7 are available from SLA as RT-3794 and from NASA as NACA TM 1393.

DESCRIPTORS: *Turbines, *Turbine blades, *Gas flow, Pressure, Boundary layer.

Kuznetsov, L. A.
COMBUSTION CHAMBERS OF FIXED GAS TURBINE INSTALLATIONS, CHAPS. II-V. [1962] [79]p. [DSIR] NLL M. 3325.
Order from OTS or SLA $7.60 62-23921

Trans. of mono. [Kamery Sgoraniya Statsionarnykh Gazo-Turbinnykh Ustanovok] Moscow, 1957, p. 47-80, 91-130, 147-164.

DESCRIPTORS: *Gas turbines, Turbines, *Combustion chambers, Design, Pressure, Combustion, Heat transfer.

Contents:
Combustion
Heat release in the combustion zone and pressure losses in the combustion chamber
Design of combustion chambers
Approximate design calculations.

Kuznetsov, L. A., Krinskii, A. A. and others.
GAS TURBINE INSTALLATION GT-700-5. [1962] [13]p. NLL M. 3542.
Order from OTS or SLA $1.60 62-24642

Trans. of Energomash[inostroenie] (USSR) 1961, v. 7, no. 5, p. 1-6.

DESCRIPTORS: *Gas turbines, Turbines, Design, Operation, Axial-flow compressors, Compressors, Natural gas, Transportation, Pipes.

The gas turbine installation GT-700-5 was designed and manufactured in 1959-1960 at the N. Z. L. works for driving natural gas pipeline compressors. The GT-700-5 is an open cycle gas turbine with heat exchange and an independent power turbine, which gives good part load efficiency and possibility of speed variation at any load. The axial air compressor has eleven stages with 50% reaction at mean diameter.

Variable profile, twisted rotor blades are mounted in a constant diameter rotor. The stator blades are of constant profile, untwisted. The compressor rotor (nominal speed 5000 r. p. m.) is solid, with a shrunk-in stub shaft. The thrust collar, the impeller of a centrifugal lub. oil pump and a gear connecting the shaft with the small expansion turbine used for starting, are all mounted on this stub shaft.

Mellerovich, G. M. and Bliznyukova, N. M.
STRAIN GAUGE STUDIES ON STEAM TURBINE COMPONENTS AT THE KIROV TURBINE WORKS IN KHARKOV (Tenzometricheskie Issledovaniya Detalei Parovykh Tupbin na Ki:TGZ imeni Nirova). [1962] [14]p. (foreign text included) 3 refs. [DSIR] NLL M. 3427.
Order from OTS or SLA $1.60 62-24839

Trans. of Energomashinostroenie (USSR) 1961, v. 7, no. 2, p. 36-39.

DESCRIPTORS: *Steam turbines, Turbines, Stresses, *Strain gages, Gages.

Nesterenke, G.
PHOTON COSMIC SHIP. 22 Dec 61 [12]p. FTD-TT-61-252; AD-270 798.
Order from OTS or SLA $1.60 62-19108

Unedited rough draft trans. of Kryl'ya Rodiny (USSR) 1958, no. 10, p. 16-17.

DESCRIPTORS: Spaceships, Rocket motors, Photons, *Ion rockets, Space flight, Theory, Rocket propulsion, Light pulses.

Semenyuta, G. P.
ÜBER DIE WASSERSTOFFKÜHLUNG DER TURBOGENERATOREN DES TYPS TW2-100-2. (On Hydrogen Cooling of Turbogenerators of the Type TW2-100-2). 3p. (text in German).
Order from T.I.B. $1.40

Trans. of Energetik (USSR) 1960, v. 8, no. 3, p. 20-21

DESCRIPTORS: *Hydrogen, *Cooling, *Turbines, Generators.

Shvets, I. T. and Dyban, E. P.
AIR COOLING OF GAS TURBINE ROTORS. 18 July 62 [372]p. 140 refs. MCL-1406. AD-281 848
Order from OTS or SLA $21.00 62-32277

Trans. of mono. Vozdushnoe Okhlazhdenie Rotorov Gazovykh Turbin, Kiev, 1959, 351p.

DESCRIPTORS: *Gas turbines, *Rotor blades, Cooling, *Air cooled, *Heat transfer, Heat exchangers, Construction, Jets, Aerodynamic data, Gas turbine rotors.

Chapters are devoted to: (1) Effect of inlet temperature of the working fluid on effeciency of gas turbine plants; (2) Gas turbine construction materials; (3) Fundamentals of the theory of heat transfer; (4) Methods of investigating heat exchange in elements of gas and steam turbines; (5) Methods of cooling gas turbine rotor parts; (6) Heat exchange between gas and turbine parts; (7) Heat exchange in cooling channels of gas turbine rotors; (8) Heat exchange on lateral surfaces of turbine rotors; (9) Heat transfer in working blade shank zone; (10) Contact heat exchange in turbine parts; (11) Calculating temperature fields of cooled turbine disks under steady-state transfer conditions; (12) Evaluation of transient temperature field of cooled turbine disks; (13) Evaluation of temperature fields in working and guide blades; (14) Fundamentals of thermal calculation of air-cooled gas-turbine rotors; and; (15) The basic points of the aerodynamic design of air-cooled gas-turbine rotors.

Vzorov, V. A.
ÜBER DIE ERHÖHUNG DES VERSCHLEISSWIDERSTANDES DER ZYLINDER DER MOTOREN. (Increasing the Resistance of motor-cylinders Against Wear). 2p. (text in German).
Order from T.I.B. $1.40

Trans. of Avtomobil'naya Promyshlennost' (USSR) 1961 [v. 27] no. 7, p. 40.

DESCRIPTORS: *Internal combustion engines, Cylinder liners, Deterioration.

Manufacturing Equipment and Processes

NEW DATA ON THE MECHANICAL DESCALING OF WIRES. [1962] 6p.
Order from SLA $1.10 62-18149

Trans. of Draht (West Germany) 1952, v. 3, no. 2, p. 42-44.

DESCRIPTORS: *Wire, *Scale, Drawing (Machine processing), Manufacturing methods.

Bruma, M.
NEW CONTRIBUTIONS TO THE PHYSICS OF ELECTRO-EROSION: APPLICATION TO HIGH POWER ELECTRO-EROSIVE MACHINES. Aug 62.
Order from BISI 3 10s BISI-2821

Trans. of Société Française des Electriciens. Bulletin, 1960, ser. 8, v. 1 [no. 12] p. 840-847.

DESCRIPTORS: *Electroerosive machining, Physics, Manufacturing methods.

Dederer, Richard.
BEVELING DEVICE FOR WALLS OF PIPE ENDS, tr. by J. R-P. 24 July 62, 6p. (4 figs. omitted).
Order from OTS or SLA $1.10 62-32224

Trans. of German patent 715,780, cl. 49b, gr. 5/07, pat. from 25 Feb 38, grant announced 4 Dec 41, pub. 7 Jan 42.

DESCRIPTORS: *Pipes, Welded joints, *Cutting tools, Electric machinery.

Dobrynin, E. M.
AUTOMATION EQUIPMENT FOR INDUSTRIAL PROCESSES, tr. by A. Solan and E. Mech. 1962, 129p. PL-480 Comm.
Order from OTS $1.25 61-31202

Trans. of mono. Pribory Avtomatizatsii Proizvodstvennykh Protsessov, Moscow, 1960 [192]p.

DESCRIPTORS: *Automation, *Industrial production, Electronic equipment, *Instrumentation, Production, Automatic, Transducers, Control systems, Digital computers, Effectiveness, Errors, Quality control.

Contents:
Main aims of the Seven Year Plan for the production of instruments and automation equipment
Progress of Soviet instrument production
Effectiveness of instruments and automation equipment

Working principles of automatic instruments
Component elements of automatic instruments
Primary instruments and transducers of controlled variables
Secondary instruments
Automatic-regulation instruments
Automatic control instruments
Accuracy and quality of automatic instruments.

Litvin, D. M. and Morozov, N. N.
SCHLEUDERGIESSMASCHINE ZUR HERSTELLUNG VON BÜCHSEN. (Centrifugal Casting Machine for Manufacture of Barrels). 6p. (text in German).
Order from T.I.B. $1.55

Trans. of Liteinoe Proizvodstvo (USSR) 1962, no. 1, p. 20-22.

DESCRIPTORS: *Casting, Machines.

Seehofer, F. and Borowski, H.
A SORTING BALANCE FOR THE AUTOMATIC SELECTION OF CIGARETTES. [1962] 3p.
Order from K-H $3.75 K-H 11816-h

Trans. of Beiträge zur Tabakforschung [sic] 1962, no. 5, p. 193-194.

DESCRIPTORS: *Cigarettes, Manufacturing methods, Automation, *Balances.

Tselikov, A. I., Granovskii, S. P., and Efanov, V. I.
A NEW TECHNIQUE FOR PRODUCING BILLETS FOR HOLLOW RAILWAY AXLES. July 62.
Order from BISI £1 5s BISI-2889

Trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1961 [v. 3] no. 5, p. 4-5.

DESCRIPTORS: *Axle shafts, *Railroad cars, Locomotives, Manufacturing methods.

Vieweg, H.
METHOD OF SHAPING MATERIALS, TOGETHER WITH RELATED DEVICE. Feb 61, 1066 words.
Order from K-H $11.25 K-H 10565 a

Trans. of Swedish patent 105422, by General Motors Corp. [pub. 1942].

DESCRIPTORS: *Molding, Manufacturing methods,

Transport, Traction and Hoist Facilities

Bashuk, I. B. and Khomenko, A. I.
KONTAKTLOSE STEUERUNG VON ELEKTRISCHEN TRIEBWAGEN. (Contactless Controlling Device of Electrical Rail Motorcars). 10p. (text in German).
Order from T.I.B. $1.55

Trans. of Elektrichestvo (USSR) 1961, no. 10, p. 24-29.

DESCRIPTORS: *Locomotives, Control system.

Förster, H. J.
THE NEW AUTOMATIC TRANSMISSION BY DAIMLER-BENZ (Das Neue Automatische Getriebe von Daimler-Benz). [1961] [69]p. (foreign text included).
Order from SLA $6.60 62-10741

Trans. of ATZ [Automobiltechnische Zeitschrift] (Germany) 1961, v. 63, no. 9, p. 279-293.

DESCRIPTORS: *Automatic transmissions, *Automotive industry, Fuel consumption, Hydraulic couplings, Transmission gears, Lubrication, Design.

Glushkov, M. T. and Goncharov, K. B.
THE ER7 A.C. ELECTRIC TRAIN (Elektropoezd Peremennogo Toka ER7). 7 Sep 61 [23]p. (foreign text included). Trafford Park trans. no. 3034; [DSIR] NLL M.3472.
Order from OTS or SLA $2.60 62-24903

Trans. of Elekt[richeskaya i] Teplovoz[naya] Tyaga (USSR) 1961, no. 4, p. 22-28.

DESCRIPTORS: *Locomotives, *Electric motors, *Railroad cars, Construction, Tests.

Data are presented on the mechanical construction of the coaches of the electric train; the planning of the coaches and distribution of the equipment; the main electrical equipment; the power circuit of the motor coach; the control circuits; and ventilation and heating of the train.

Gromov, G. N.
CHOICE OF A RATIONAL CONTROL SCHEDULE FOR AN ELECTRIC TRAIN (Vybor Ratsional'nogo Pezhima Upravleniya Elektropoezdom). 30 June 61 [10]p. Trafford Park trans. no. 2984; [DSIR] NLL M.3423.
Order from OTS or SLA $1.10 62-24835

Trans. of Elekt[richeskaya i] Teplovoz[naya] Tyaga (USSR) 1960, no. 12, p. 33-35.

DESCRIPTORS: *Locomotives, *Railroad cars, Scheduling, Control, Electricity, Consumption.

An analysis is presented of the method of selecting the most favourable times taken by electric trains on distances between stops with a fixed time for covering the total distance.

Marteil, Lucien-Robert.
FLEXIBLE OR ARTICULATED RAILS AND TRACK BOTTOMS FOR TOY TRAINS. 24 May 62, 3p. (8 figs. omitted).
Order from OTS or SLA $1.10 62-25029

Trans. of French patent 1,078,586, gr. 20, cl. 1, filed 1 Apr 53, granted 12 May 54, pub. 19 Nov 54.

DESCRIPTORS: *Railroad tracks, *Railroads, Simulation.

This patent relates to all rails and track bottoms said rails and bottoms being capable of being shaped as required and rolled like a fire hose in the desired length without disassembly. (Author)

MATERIALS

PROCESS FOR PRODUCING RAPIDLY SETTING LACQUERS [Verfahren zum Quellfestmachen von Cellulosehydrathaltigem Fasergut]. [1962] 4p.
Order from RIS $3.00 RIS rept. 5829

Trans. of [German] patent application I 76 828 IVc/22h, by I. G. Farbenindustrie A.G. [Feb 44].

DESCRIPTORS: *Coatings, Paints, Varnishes, Hardening, Additives, *Resorcinol, Phenols, Urea, Amines, Triazines, Aldehydes.

Breyer, H.
POROSITY AND FROST RESISTANCE OF CONCRETE. [1962] 9p. 10 refs.
Order from SLA $1.10 62-18087

Trans. of Allegem[eine] Bau-Zeitung (Austria) 1960, v. 15, no. 623, p. 1-6.

DESCRIPTORS: *Concrete, Porosity, Freezing, Resistance, Particles, Microstructure, *Construction materials industry, Soils, Water, Absorption.

Only the water saturation value method has proven outstandingly suitable for the prediction of frost resistance. The (S-values) results obtained with it are in accord with the practical behavior (performance) of mineral structural materials (concrete). Frost damage can be prevented in superstructures, underground structures and in all solid mineral structural materials and structural units (concrete) only when water is

denied access, capillarity which is too fine and too uniform is interrupted (broken), excessive water absorption impeded and excessive degree of water saturation reduced through provision of an inhomogeneous pore structure. (Author)

Ishikawa, Yutaka
METHOD OF PRODUCING A PASTE FOR CIGARETTE ROLLING. 1958, 3p. MDF I 116.
Order from OTS $0.50 62-11278

Trans. of Japanese Patent, Appl. No. Sho 26-2690, 5 Oct 49; Publ. No. Sho 24-10109, 26 May 51.

DESCRIPTORS: *Adhesives, *Cigarettes, Production, Viscosity.

A paste for cigarette rolling which has suitable viscosity and binding power and which forms a film that peels off automatically from heated rollers can be made by adding a metal of the second group of elements of the periodic table as an organic salt or hydroxide to the starch or starchy materials before or after peptization.

Khramova, V. I. and Kreshkov, A. P.
IMPROVEMENT IN THE PROPERTIES OF CEMENT MIXES BY THE INTRODUCTION OF ORGANO-SILICON COMPOUNDS, tr by C. W. Watson. 6 June 61 [9]p. Simon-Carves Limited trans. no. 0792; [DSIR] NLL M 3385.
Order from OTS or SLA $1.10 62-23886

Trans. of mono. Conf[erence] on the Practical Application of Organo-Silicon Compounds [held in] Leningrad, 1958. Proc[eedings] p. 101-106.

DESCRIPTORS: *Cements, Mixtures, Organic compounds, Silicon compounds, Conferences.

The addition of ethoxypolysiloxanephosphate to cement solutions considerably reduced the water permeability of the cement: if the samples of additives admitted water after 50 minutes at one atm, the hardened cement

solution containing the above-named additive admitted water after 14 hours 10 minutes at two atm. Steaming has a favourable effect in decreasing the water permeability (water penetrated through steamed samples containing ethoxypolysiloxanephosphate additive only after 19 hours at 3 atm).

Kogan, G. S. and Tsuranov, L. M.
DIE EIGENSCHAFTEN VON POLYMER-GIPS-BINDEMITTELN UND ERZEUGNISSEN AUF DEREN BASIS. (The Properties of Polymeric Gypsum-binding Agents and -products). 12p. (text in German).
Order from T. I. B. $1.85

Trans of Stroitel'nye Materialy (USSR) 1961 [v. 7] no. 12, p. 19-23

DESCRIPTORS: *Gypsum, *Adhesives, Polymers.

Leibovich, Kh. M. and Kapkin, M. M.
THE DURABILITY OF CONCRETE WITH ORGANO-SILICON ADDITIVES, tr. by C. W. Watson. 5 June 61 [8]p. (4 figs. omitted) 1 ref. Simon Carves Limited trans. no. 0793; [DSIR] NLL M. 3386.
Order from OTS or SLA $1.10 62-23885

Trans. of mono. Conf[erence] on the Practical Application of Organo-Silicon Compounds [held in] Leningrad, 1958. Proc[eedings] p. 107-112.

DESCRIPTORS: *Concrete, *Additives, Organic compounds, *Silicon compounds, Hardening.

The frost-resistance of steam-treated concretes from alite-aluminate portland-cement is approximately one-tenth that of the normal-hardening concretes. The addition of MCH considerably increases the frost-resistance of steam-treated concretes, but not to the level of normal-hardening concretes. The frost-

resistance of steam-treated concretes with 0.15% DKZh-94 is higher than that of normal-hardening concretes. (Author)

Meier-Grolman, Franz-Wilhelm.
PROCESS FOR THE PRODUCTION OF ROCK WOOL, tr. by P. C. C. 21 Mar 62, 3p.
Order from OTS or SLA $1.10 62-23732

Trans. of German patent 719,051, cl. 80b, gr. 5/07, by Portlandzementwerk Dotternhausen Rudolf Rohrbach K.G., pat. from 14 June 39, grant announced 5 Mar 42, pub. 31 Mar 42.

DESCRIPTORS: *Insulating materials, Production.

A process is described for the utilization of residues from oil shale low-temperature carbonization, characterized in that said residues are blown to form rock wool.

Tsechal', V. A.
ALL-UNION SCIENTIFIC AND TECHNICAL CONFERENCE ON CHECKING MATERIALS WITHOUT DESTROYING THEM (NO. 2) LENINGRAD, APR 61. 3 May 62 [9]p. FTD-TT-62-564.
Order from OTS or SLA $1.10 62-25752

Unedited rough draft trans. of #Avtomaticheskaya Svarka (USSR) 1961 [v. 14] no. 10, p. 91-93.

DESCRIPTORS: *Conferences, *Materials, Test methods, *Non-destructive testing.

Förster, E. and Knacke, O.
DISSOLUTION OF REFRACTORY MATERIALS IN SLAGS. July 62, 2100 words.
Order from HB $5.80 HB-5627

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1962, v. 33, no. 2, p. 141-143.

DESCRIPTORS: *Refractory materials, *Dolomite, *Brick, Decomposition, *Slags, Dioxides, *Silicon compounds.

Giegerich, Wilhelm.
RESULTS AND PROBLEMS OF MECHANICAL BOTTLE PRODUCTION (Ergebnisse und Probleme der Maschinellen Flaschenfertigung). [1962] [31]p. (foreign text included) 50 refs.
Order from SLA $3.60 62-14984

Trans. of Glastechnische Berichte (West Germany) 1957, v. 30, no. 7, p. 299-307.

DESCRIPTORS: *Containers, *Glass, Production, Manufacturing methods.

Karyakin, L. I. and Margulis, O. M.
ON THE FORMATION OF MULLITE IN AN UNUSUAL FORM. [1961] 5p. (2 figs. omitted) 8 refs. MDF K-105.
Order from OTS $0.50 62-11587

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1956, v. 109, no. 4, p. 821-823.

DESCRIPTORS: *Mullite, Crystals, Grains (Metallurgy), Clays, Brick, Phase studies, Refractive index.

Mullite was observed as isometric grains and hort-prismatic crystals. Such mullite was detected in unroasted bricks prepared from Polozhskii kaolin (100%), which served for 1.5 years as the roof of a soaking pit at a 1400 to 1450° temperature. This brick was subjected to the effects of iron oxide flying in the form of cinders from the surface of the metal and to

abrupt changes in temperature during the loading and unloading of the slab. The mullite was observed in the transition and operating zones as isometric grains of from 1 to 15μ in size and seldom as short-prismatic crystals. The indices of refraction of the mullite were not constant and increased as the scorified crusts approached.

Kitaigorodskii, I. I.
ARTIFICIAL SUPERSTRONG STONE: MICROLITE. [1961] 11p. (3 figs. omitted).
Order from OTS or SLA $1.60 62-10565

Trans. of article from an unidentified Russian source, n.d.

DESCRIPTORS: Ceramic materials, *Abrasives, *Cutting tools, Corrundium, Rock.

Köhler, A. K.
THE DESTRUCTION OF REFRACTORIES BY CARBON DEPOSITS. Aug 62.
Order from BISI £ 3 5s BISI-2710

Trans. of Stahl und Eisen (West Germany) 1961, v. 81 [no. 19] p. 1297-1301.

DESCRIPTORS: Refractory materials, *Carbon deposits, Waste gases, Catalysts.

Lehmann, Hans.
INFLUENCE OF ADHESION TENSION OF MOLTEN GLASS AGAINST REFRACTORY MATERIALS BY USE OF VANAL (Beeinflussung der Adhäsionsspannung von Geschmolzenem Glas gegen Feuerfestes Material Durch Vanal). [1962] [5]p. (foreign text included) 2 refs.
Order from SLA $1.10 62-16471

Trans. of Tonindustrie-Zeitung (West Germany) 1955, v. 79, no. 1/2, p. 2-3.

DESCRIPTORS: *Adhesion, Adhesives, *Surface tension, *Glass, *Refractory coatings, Oxides, *Vanadium compounds.

Schmidt, Rudolf.
INFLUENCE OF GRAIN SIZE OF RAW MATERIALS UPON THE RATE OF MELTING AND REFINING (Einfluss der Rohstoffkorngrösse auf Einschmelzgeschwindigkeit und Läuterung). [1962] [4]p. (foreign text included) 16 refs.
Order from SLA $1.10 62-16470

Summary trans. of Sprechsaal (West Germany) 1950, v. 83, no. 2, p. 21-23.

DESCRIPTORS: *Glass, Particles, Powders, *Quartz, Calcium compounds, Oxides, Dolomite.

Slavyanskii, V. T., Krestnikova, E. N., and Proskuryakov, M. V.
STUDY OF BUBBLE FORMATION IN GLASS MELTING UNDER VACUUM. Oct 61, 7p. 4 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Steklo i Keramika (USSR) 1959, v. 16, no. 9, p. 25-29.
Another trans. is available from ATS $10.85 as ATS-14N51R [1962] 7p.

DESCRIPTORS: *Glass, Melting, *Vacuum furnaces, *Bubbles, Gases.

Andrianov, V. M.
SOME DATA ON THE ECONOMIC EFFECTIVENESS OF CHEMICAL METHODS IN PETROLEUM REFINING. 11 Apr 62 [13]p. JPRS: 13423.
Order from OTS or SLA $1.60 62-23836

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1962 [v. 7] no. 2, p. 37-40.

DESCRIPTORS: *Petroleum, Oils, Fuels, Refineries, *Economics.

Chemical methods of petroleum refining can, at the present time, be applied through the use of catalytic methods of fuel production, through the use of fuel and oil admixtures, and through the combining of petrochemistry and petroleum refining. The use of catalytic processes makes it possible to reduce the costs of production of gasoline by 15 to 20% and capital investment by 20 to 25% in comparison with thermal methods; therefore, the introduction of catalytic processes and the combining of petroleum refining with petrochemistry should be encouraged. Costs of production are reduced by 5 to 8% through the combining of petrochemistry and petroleum refining. Capital investment can be reduced by 15%. (Author)

Dugan, W.
POLLUTION OF THE ATMOSPHERE: DIESEL OIL ADDITIVES FOR THE PREVENTION OF AIR POLLUTION. [1962] 2p.
Order from SLA $1.10 62-18066

Trans. of Tech[niques] du Pétrole (France) 1961, v. 16, no. 189, p. 8524.

DESCRIPTORS: *Atmosphere, *Contamination, Diesel engines, Exhaust gases, Carbon compounds, Monoxides, Oils, Additives, *Fuels.

Gerasimov, M. M. and Glushnev, V. E.
EXTENT OF REFINING OF CRACKED GASOLINES WITH SUPPORTED ZINC CHLORIDE DEPENDING UPON THE AMOUNT OF CATALYST. [1962] [4]p.
Order from OTS or SLA $1.10 62-14115

Trans. of Neftyanoe [Khozyaistvo] (USSR) 1940, v. 21, no. 6(11) p. 70-75.

DESCRIPTORS: *Petroleum, Refineries, Oxidation, Decomposition, *Gasoline, *Zinc compounds, Chlorides, *Catalysts.

Mugyal, S. A.
VERÄNDERUNG DER MIKROHÄRTE DES VITRITS BEI DER VERWITTERUNG DER KOHLEN. (The Alteration of Microhardness of Vitrit During Weathering of Coal). 8p. (text in German).
Order from T.I.B. $1.55

Trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1960, v. 14, p. 81-86.

DESCRIPTORS: *Hardness, *Coal, Aging.

Nametkin, S. S. and Klimov, B. K.
TEN YEARS' WORK OF THE INSTITUTE OF MINERAL FUELS, ACADEMY OF SCIENCES U.S.S.R. (1934-44). [1962] 5p.
Order from OTS or SLA $1.10 62-10875

[Condensed] trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1944, no. 10/11, p. 663-671.

DESCRIPTORS: *Scientific research, Minerals, *Fuels.

Petersen, Peter.
THE "HEAT-TIGHT VESSEL", A TRANSPORT AND STORAGE VESSEL FOR LIQUID OXYGEN AND LIQUID NITROGEN, ETC., tr. by H. P. H. 3Feb53 [30]p. (illus. omitted).
Order from OTS or SLA $2.60 62-25704

Trans. of mono. Det "Värmetäta Kärlet", ott Transportoch Förvarings-Kärl för bl a Flytande Syre och Flytande Kväve, Lund, 20 Dec 51.

DESCRIPTORS: *Liquefied gases, *Oxygen, *Nitrogen, Transportation, *Storage tanks, Tests.

The possibilities of producing a transport and storage vessel for liquid oxygen and liquid nitrogen were investigated. After a satisfactory vacuum and sealing method for stainless vessels was worked out and a pinching off method, brazing method and unbrazing method, the following results were obtained. A vessel with a spiral foil shield with many layers was developed. This has a figure of merit which surpasses at least threefold the figure for the silvered glass thermos bottle, which in a certain measure has served as basis of measurement. The capabilities of undercooled gas were investigated and found to be of considerable value, in that a liquid far from its boiling point can be stored, transported, and pumped with relative ease and completely without losses for a considerable period of time. In preliminary work for a larger vessel (50 liters) and a large jar (100 liters) for deep-frozen goods, a large three-phase oven was designed for degassing and a system worked out for preventing vibration of the inner vessel in large evacuated units.

Rustschew, D. D.
MANUFACTURE OF COKE FROM LEAN, LOW-CAKING COALS BY MEANS OF ADDITIONS OF CRUDE OIL PRODUCTS. Aug 62.
Order from BISI £ 2 15s BISI-2866

Trans. of Erdöl und Kohle (West Germany) 1961, v. 14 [no. 7] p. 542-544.
Another trans. is available from ATS $8.35 as ATS-59N57G [1961] 6p.

DESCRIPTORS: *Coke, Production, *Coal, *Petroleum, *Oils, Asphalt.

Sentyurikhina, L. N., Oparina, E. M., and Yermilov, A. S.
MOLYBDENUM DISULFIDE: A NEW LUBRICANT [AND] THE INCREASE OF THE THERMAL STABILITY OF SILICON LIQUIDS BY MEANS OF ULTRASONICS AND ANTIOXIDATION ADDITIONS. Nov 60 [20]p. (4 figs. omitted) 10 refs. MCL-327; AD-255 369.
Order from OTS or SLA $1.60 61-27431

Trans. of mono. Smazochnye Materialy, Prisadki k Nim i Parafinu (Lubricants, their Admixtures and Paraffins) (Trudy, 1958, no. 7) p. 403-413.

DESCRIPTORS: Lubricants, Materials, *Molybdenum compounds, Sulfides, Purification, *Silicon compounds, Liquids, Stability, Temperature, *Ultrasonics, *Antioxidants, Solids, Thin films, *Antiseize compounds.

MOLYBDENUM DISULFIDE-A NEW LUBRICANT: The problem of applying the solid lubricant MoS2 which requires a high degree of dispersion was studied. Mechanical (jet mill) and physical (ultrasonic) dispersion methods were used. Aggregation of the particles was avoided by conducting the grinding process in a liquid medium. MoS2 films were capable of withstanding heavy loads acting for a short time. THE INCREASE OF THE THERMAL STABILITY OF Si LIQUIDS BY MEANS OF ULTRASONICS AND ANTIOXIDATION ADDITIONS; The thermal stability of irradiated Si liquids was studied by the kinetics of changes in kinematic viscosity and the gelatinization time of a liquid exposed to ultrasonics as a function of the time of thermostatic regulation of a certain layer of the tested product. In the production of the lubricant tsiatim -221 (Si liquid, thickened by calcium stearate), the optimum irradiation time of 4 min for obtaining the best thermostability approximately corresponds to the optimum for obtaining the proper colloidal stability (2 to 10 min). The addition of an antioxidation admixture to the irradiated liquid increased thermostability. (ASTIA abstract)

Soroko-Novitskii, V. I.
EFFECT OF ENGINE HEAD MATERIAL ON OCTANE NUMBER REQUIREMENTS OF FUEL. [1962] 13p.
Order from K-H $16.25 K-H 8598

Trans. of Avtomobil'naya Promyshlennost' (USSR) 1958, no. 1, p. 25-27.

DESCRIPTORS: *Internal combustion engines, *Fuels.

Leather and Textiles

Dzhokharidze, G. V.
METHODS OF IMPROVING THE DOEFER COMB MOTION. [1962] [10]p. T. M. M. (Research) Ltd. Trans. TR/344; NLL M. 3528.
Order from OTS or SLA $1.10 62-24646

Trans. of Teks[til'naya] Prom[yshlennost'] (USSR) 1961 [v. 21] no. 7, p. 11-15.

DESCRIPTORS: *Textile industry, *Manufacturing methods, Machines, Motion, Vibration.

An analysis of the action of the doffer comb motion showed that it is possible to reduce the comb vibrations by 19% by means of a crossed rope drive and thereby to eliminate the frequent breakdowns of the comb box mechanism and to increase its life. Tests of cards incorporating this re-adjustment were carried out at the integrated spinning and knitting mill in Tblisi and they showed that the crossed drive decreased the short-end irregularity of the card sliver from 4.7 to 3.7%, i.e. by approximately 21%. Crossing the rope drive entails no financial outlay whatever; it causes no idle time in other machines and the product quality is improved to a substantial degree.

Stamm, O. A., Zollinger, Hch. and others.
THE NATURE OF THE BOND BETWEEN REACTIVE DYES AND CELLULOSE (Die Bindung Zwischen Reaktivfarbstoff und Cellulose) tr. by H. A. G. Nathan. 1962, 5p. 13 refs. NRCC Technical trans. 1023.
Order from NRCC $0.50 NRCC C-3976

Trans. of Helvetica Chimica Acta (Switzerland) 1961, v. 44, no. 4, p. 1123-1125.

DESCRIPTORS: Textiles, *Cellulose, *Dyes, Chemical bonds, Deterioration, *Microorganisms, Glucose, Hydrolysis.

Takahashi, Masao.
MODEL-WISE OBSERVATION OF DESOLVATION IN THE SPINNING BATH. Rept. 35 of Studies on Acrylic Fiber. [1962] 8p. 1 ref.
Order from SLA $1.10 62-18036

Trans. of Kobunshi Kagaku (Japan) 1961, v. 18, no. 198, p. 605-608.

DESCRIPTORS: *Acrylonitriles, *Synthetic fibers, Fibers, Processing, Filaments.

The desolvation process of formed filaments in solvent-water system spinning bath was observed. The composition of the swelling liquid changed gradually and approached the composition of the steeping bath. The apparent diffusion coefficient of desolvation at this time, k_θ, was sensitive to the coagulant structure, and it was possible to evaluate the coagulation process and the structure of the filaments from this value. The weight degree-of-swelling [or weight swelling ratio] of the formed filaments tended to decrease with the steeping time. The strength and elongation of the swollen filaments became smaller the lower the solvent concentration in the steeping liquid. Lowering of the concentration of the swelling liquid due to drawing was observed. (Author)

Yanovskaya, N. B. and Potapova, K. K.
INVESTIGATIONS OF POLYACRYLONITRILE FIBERS OBTAINED AT VARIOUS DRAFTS. Oct 61, 4p. 2 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Izvest[iya] Vysshikh [Uchebnykh] Zaved[enii] Tekhnol[ogiya] Tekstil['noi] Prom[yshlennosti] (USSR) 1960 [v. 4] no. 3, p. 24-29.
Another trans. is available from ATS $6.30 as ATS-25N52R [1962] 5p.

DESCRIPTORS: *Polymers, *Acrylonitriles, *Synthetic fibers, Physical properties, X-ray diffraction analysis, Electron microscopy.

Photographic Materials

CHROMIUM-FREE NEGATIVE COPYING PROCESS ON ALUMINUM WITH OZASOL DYESTUFF 43/53. 27 Mar 56 [2]p.
Order from SLA $1.10 62-10541

Trans. of an unidentified German language mono., pub. by Kalle and Co., Wiesbaden, Bieberich, n.d.

DESCRIPTORS: *Lithography, *Dyes, *Photographic emulsions, *Aluminum, Foils.

CHROMIUM-FREE POSITIVE COPYING PROCESS ON ALUMINUM (ALFO-FOILS, ROTAPRINT FOILS E, A, G AND W) WITH OZASOL SOLUTION 9/49. 27 Mar 56 [2]p.
Order from SLA $1.10 62-10542

Trans. of an unidentified German language mono., pub. by Kalle and Co., Wiesbaden, Bieberich, July 44.

DESCRIPTORS: *Lithography, *Dyes, *Photographic emulsions, *Aluminum, Foils, Metal plates.

PROCESS FOR IMPROVING THE STABILITY OF SILVER HALIDE EMULSIONS. July 60, 7p.
Order from RIS $12.50 RIS rept. 4714

Trans. of German patent application P 7224 (57b, 8/02) by Otto Perutz Trockenplattenfabrik München G.m.b.H., filed 4 Mar 52, pub. 7 Jan 54.

DESCRIPTORS: *Silver compounds, *Halides, *Photographic emulsions, Stability, Indoles.

Plastics

PROCESS FOR PRODUCING CROSS-LINKED POLYMERIZATION PRODUCTS. Aug 60, 7p.
Order from RIS $11.50 RIS rept. 61069

Trans. of German patent application I 14570 (39c, 25/01) DAS 1 065 178, by Institut für Chemie u. Technologie der Plaste, filed 19 Mar 58, pub. 10 Sep 59.

DESCRIPTORS: *Polymerization, Plastics, *Styrenes, Vinyl radicals, *Acetates, *Acrylic resins, Acrylonitriles, Formaldehyde.

PROCESS FOR PRODUCING PLASTIC MOULDABLE MASSES FROM POLYETHYLENE AND FINELY POWDERED FILLERS. [1962] 8p.
Order from RIS $12.50 RIS rept. 61068

Trans. of German patent application E 12 669 (39b, 22/06) DAS 1 065 607, by Mannesmann A.G., filed 13 July 56, pub. date 17 Sep 59, pat. pub. 17 Mar 60.

DESCRIPTORS: Plastics, *Ethylenes, Powders, *Molding, Coke, Powders, Binders.

PROCESS FOR PRODUCING STABLE AQUEOUS POLYVINYL ACETAL DISPERSIONS WITHOUT PLASTICIZERS. Aug 60, 7p.
Order from RIS $15.00 RIS rept. 61070

Trans. of German patent application F 22 999 (39b, 22/06) DAS 1 056369, by Farbwerke Hoechst A. G., filed 9 May 57, pub. date 30 Apr 59, pat. pub. 29 Oct 59.

DESCRIPTORS: Plastics, *Polymers, *Vinyl radicals, *Acetates, Production, Carboxylic acids, Esters, Alcohols, Plasticizers.

THE STABILIZATION OF VINYL CHLORIDE POLYMERS. July 60, 12p. 2 refs.
Order from RIS $8.50 RIS rept. 5849

Trans. of mono. [report presented at] the Plastics Commission (meeting no. 26) by I. G. Farbenindustrie A. G., Leverkusen, n.d.

DESCRIPTORS: Plastics, *Vinyl chlorides, Decomposition, Stabilization, Chlorides.

González, J. Jimenez.
CONTROL OF THE ELECTRICAL CHARACTERISTICS IN PLASTICS AND RUBBER (Control de las Caracteristacas Electricas en Plasticos y Caucho). [1961] [13]p. (1 fig. omitted). F-TS-8802/V.
Order from OTS or SLA $1.60 62-25669

Trans. of Revista de Plasticos (Spain) 1955 [v. 6] no. 33, p. 140-146.

DESCRIPTORS: *Plastics, *Rubber, Electrical properties, Control, *Insulating materials, *Electric insulation, Ceramic materials, Mica, Electronic systems.

Mihail, F., Gherghel, F. and others.
CHLORINATION OF LOW-PRESSURE POLYETHYLENE AND ITS COMPOUNDING WITH POLYVINYL CHLORIDE. Oct 61, 7p. 5 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Revista de Chimie (Rumania) 1961, v. 12, no. 5, p. 275-281.
Another trans. is available from ATS $17.15 as ATS-34N57RU [1961] 11p.

DESCRIPTORS: Elastomers, *Polymers, Ethylenes, *Vinyl chlorides, *Chlorination, Physical properties, Mechanical properties, *Plastics.

Somogyi, Agnes, Geczy, Istvan, and Dobo, Janos.
GRAFT COPOLYMERIZATION IN THE PRESENCE OF BENZOYL PEROXIDE-DIMETHYL ANILINE WITH THE AID OF IRRADIATION. Oct 61, 7p. 9 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Magyar Tud[omanyos] Akad[emia] Kemiai Oszt[alyanak] Koszl[emenyei] (Hungary) 1961, v. 15 [no. 1] p. 18-28.

DESCRIPTORS: Plastics, *Polymerization, Ethyenes, *Benzoyl radicals, Peroxides, *Methyl radicals, Formaldehyde resins, Acrylic resins, Vinyl radicals, Acetates, Styrenes, *X-rays, Anilines, Copolymerization.

Uskov, I. A., Tarasenko, Yu. G., and Kusnitsyna, T. A.
COMPOUNDING OF DISSOLVED POLYMETHYL-METHACRYLATES WITH FILLERS. Oct 61, 3p. 9 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Vysokomolek[ulyarnye] Soed[ineniya]] (USSR) 1961, v. 3, no. 1, p. 37-40.
Another trans. is available from ATS $6.25 as ATS-94P59R [1962] 4p.; an abstract trans. from OTS or SLA $1.10 as 61-19866, AID-61-44, 10 Apr 61, 2p.

DESCRIPTORS: Plastics, Methyl radicals, *Acrylic resins, Chalk, Bentonite, Reinforcing materials, Additives.

Rubber and Elastomers

MECHANIZATION AND AUTOMATION OF THE SOVIET RUBBER INDUSTRY: A REVIEW OF SOVIET LITERATURE. 29 Aug 61 [8]p. 19 refs. AID rept. 61-122; AD-263 669.
Order from OTS or SLA $1.10 61-28482

DESCRIPTORS: *Rubber, *Industry, Machines, Machine tools, Manufacturing methods, *Automation.

Studies on the automation of synthetic-rubber plants are being conducted by experimental design bureaus for automatic equipment of individual plants and by the Laboratory for Automatic Equipment, All-Union Scientific Research Institute of Synthetic Rubber. The newly organized Section for Automation of the Scientific and Technical Council, State Committee of the Council of Ministers USSR for Chemistry, has assumed the general supervision of these studies. On the whole, extensive automation and mechanization of the rubber industry is hampered by insufficient capacity of the general-and special-machinery industries, and the Soviet Government is forced to import modern equipment and even plants. Negotiations with Vickers to supply the Soviets with a plant for producing SBR rubber is mentioned as the latest development in this field. (Conclusion)

Khrapunov, L. G.
DER EINFLUSS DES GUMMIANTEILS IN AUTO-REIFEN AUF DEREN LEISTUNG. (The Influence of the Rubber Component in Tires on Their Endurence). 7p. (text in German).
Order from T.I.B. $1.55

Trans. of Kauchuk i Rezina (USSR) 1961, v. 20, no. 11, p. 28-31.

DESCRIPTORS: *Rubber, *Tires.

Wood and Paper

CONTINUOUS PROCESS FOR PRODUCING CELLULOSE USED FOR THE PREPARATION OF SPINNING SOLUTIONS. 10 May 61, 3p.
Order from OTS or SLA $1.10 62-14272

Trans. of Swiss patent 236,562, cl. 18a, by Süddeutsche Zellwolle A.G., Kelheim an der Donau, Germany, appl. 1 Mar 43, reg. 28 Feb 45 (priority: Germany, 30 Jan 43).

DESCRIPTORS: *Cellulose, Fibers, Resistance, Grinders, Pressure.

A cellulosic material suspended in a non-solvent agent is mechanically treated in a continuous process in a rotary cross-mill of the Kirchner-Strecker system. (Author)

METHOD FOR THE MECHANICAL PREPARATION OF CELLULOSE FOR SPINNING SOLUTIONS. 10 Apr 61, 3p.
Order from OTS or SLA $1.10 62-14313

Trans. of French patent 905,927, gr. 4, cl. 1, by Suddeutsche Zellwolle A.G., Germany, appl. 19 July 44, granted 30 Apr 45, pub. 18 Dec 45 (patent appl. filed in Germany 19 July 43).

DESCRIPTORS: *Cellulose, Temperature, Grinders, Cooling, Pressure, Fibers.

The operation is effected at a high temperature up to 100°C or above 100°C under pressure. In order to maintain the temperature constant during grainding, a system of cooling coils is used on the front wall of the rotating grinder.

Colombo, P., Corbetta, D. and others.
A LABORATORY STUDY OF TWO-STAGE COOKING OF SOFTWOODS. Paper presented at XIV Congress, Cannes, 29 May-3 June 61. [1962] [23]p. 11 refs.
Order from SLA $2.60 62-16211

Trans. of A[ssociation] T[echnique de l'] I[ndustrie] P[apetiere]. Bull[etin] (France) 1961, no. 5, p. 404-424.

DESCRIPTORS: *Wood pulp, Processing, Black liquor, Physical properties, Sulfites.

The following two-stage cooks were studied: (a) sodium bisulphite and sodium monosulphite, (b) sodium bisulphite and buffered sodium monosulphite, (c) sodium bisulphite and sodium monosulphite + soda, and (d) sodium bisulphite and kraft. The results were compared with those of conventional cooks: (1) sodium sulphite at pH 2.0 to 8.5, (2) soda, and (3) kraft. The pulps from two-stage cooks have properties between those of acid sulphite and kraft pulps. (Author)

Gritsenko, A. P., Dogotar', V. N. and Yatsenko, G. N.
AUTOMATISCHES KARTONSTÄRKEN-MESSGERÄT. (An Automatic Tool for Measuring the Thickness of Cardboard). 2p. (text in German).
Order from T.I.B. $1.40

Trans. of Bumazhnaya Promyshlennost' (USSR) 1961, v. 36, no. 10, p. 21.

DESCRIPTORS: *Measurement, *Paper.

Halme, Matti.
APPLICATION OF THE MANIFOLD-PRINCIPLE IN THE DISTRIBUTION PIPING DESIGN OF PAPER MACHINE HEADBOXES. I. FUNDAMENTALS OF MANIFOLD SYSTEMS. 31 May 62, 10p. (4 figs. omitted) 13 refs.
Order from SLA $1.10 62-16617

Trans. of Paperi ja Puu (Finland) 1961, v. 43, no. 12, p. 757-761.

DESCRIPTORS: *Paper, Machines, Pipes, Distribution, *Fluid flow, Velocity, Friction, Viscosity, Mathematical analysis.

In this paper main types of distribution pipings for paper machine headboxes are described in brief. The theoretical background of true manifold-systems is presented and a formula derived for calculating the contour of the uniformly discharging manifold header

for a paper machine. The effect of stock properties and paper machine conditions on the flow friction coefficient are considered. (Author)

Jayme, George, Demmig, Werner, and Knolle, Herbert.
THE RETENTION OF STARCH, CMC AND ALGINATE ON THE WIRE AND IN THE STOCK RECOVERER, AS DEPENDENT UPON THE QUANTITY INITIALLY ADDED AND UPON THE DEGREE OF BEATING OF THE PULP. [1962] 8p. (11 figs. omitted) 10 refs.
Order from SLA $1.10 62-18075

Trans. of German language article from the Water and Sewage Research Office of the Cellulose Chemistry Institute, Darmstadt Technical College [1960].

DESCRIPTORS: *Paper industry, Chemical waste, Cellulose chemistry.

For abstract see Technical Translations 5: 631, 1961.

Lehmann, Wolfgang.
AUTOMATIC CONTROL DEVICES FOR PAPER MACHINES, PT. I. 29 June 62, 21p. (12 figs. refs. omitted).
Order from SLA $2.60 62-18043

Trans. of das Papier (West Germany) 1962, v. 16, no. 2, p. 53-61.

DESCRIPTORS: Paper, Paper industry, *Wood pulp machines, Machines, *Automation, Quality control, Manufacturing methods, *Control systems.

Lehmann, Wolfgang.
AUTOMATIC CONTROL DEVICES FOR PAPER MACHINES, PT. II. 29 June 62, 16p. (5 figs. refs. omitted).
Order from SLA $1.60 62-18044

Trans. of das Papier (West Germany) 1962, v. 16, no. 3, p. 95-102.

DESCRIPTORS: *Paper, Paper industry, *Wood pulp machines, Machines, *Automation, Quality control, Manufacturing methods, Dehydration, Steam, Control systems.

See also 62-18043.

Lehmann, Wolfgang.
AUTOMATIC CONTROL DEVICES FOR PAPER MACHINES, PT. III. 29 June 62, 16p. (7 figs. refs. omitted).
Order from SLA $1.60 62-18045

Trans. of das Papier (West Germany) 1962, v. 16, no. 4, p. 131-138.

DESCRIPTORS: *Paper, Paper industry, *Wood pulp machines, Machines, *Automation, Quality control, Manufacturing methods, *Control systems.

See also 62-18044

MATHEMATICS

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNAL: MATHEMATICS, 1961, NO. 11. 5 July 62 [10]p. JPRS: 14381.
Order from OTS or SLA $1.10 62-25602

Trans. of selected abstracts from Referativnyi Zhurnal. Matematika (USSR) 1961, no. 11.

DESCRIPTORS: *Mathematics, Abstracting, Number theory, Functions, Complex variables, Probability, Equations, Solutions, Errors, China.

Computing Devices

CYBERNETIC MACHINES. 27 Aug 62, 11p. JPRS: 14962.
Order from OTS or SLA $0.50 62-11760

Trans. from Pravda, Moscow (USSR) 1962, 5 July; and Leninskoe Znamya (USSR) 1962, 6 July.

DESCRIPTORS: *Cybernetics, *Digital computers, Learning, Computer logic, Design.

Contents:
"Thinking" machines: friends or enemies, by V. Trapeznikov
Machine learns to learn, by G. Zelenko
Can a machine create a design, by Yu. Sinyakov.

Ganulich, A. K.
ELECTRONIC SIMULATING DEVICES. 9 Aug 62 [74]p. 6 refs. JPRS: 14776.
Order from OTS or SLA $7.60 62-32364

Trans. of mono. Elektronnye Modeliruyushchie Ustroistva, Moscow, 1961, 78p.

DESCRIPTORS: *Electronic equipment, Simulation, *Analog computers, *Differential equations, Differentiating circuits, Integrators, *Current amplifiers, Drift, *Functional analysis, Diodes.

The purpose of this book is to acquaint the readers with the principles of the design and work of small electronic analog computing systems. In the First Chapter the author outlines the field of the use of electronic systems using the specific example of a follow-up system. The book familiarizes the reader with the principle of simulation. In the Second Chapter the author shows how the basic mathematical operations of summation, differentiation, and integration can be practically performed with simulators. In the Third Chapter the author describes d-c amplifier systems; his principal attention is given the principles of stabilization and compensation of the zero drift. Practical circuits of computing amplifiers are given. The Fourth Chapter deals with the circuits of functional converters, and the Fifth Chapter, -- with multiplying devices. The book is intended for the wide circle of engineers, technicians, and students of higher technical educational institutions, who are interested in the problems of the design and work of electronic computers. (Soviet publisher's note)

Gol'dman and Kurshev.
EFFEKT DES "DAUER-GEDÄCHTNISSES" BEI DER PHOTOLEITFÄHIGKEIT. (The Effect of the "Permanent Memory" of Photoconductivity). 6p. (text in German).
Order from T.I.B. $1.55

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 128, no. 4, p. 698-701.

DESCRIPTORS: *Memory devices, *Photoconductivity.

Stognii, A. O.
ON THE PRINCIPLES OF CONSTRUCTING A DIGITAL LOGICAL MACHINE. 27 Aug 62, 4p. 6 refs. JPRS: 14961.
Order from OTS $0.50 62-11759

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1962, no. 5, p. 575-577.

DESCRIPTORS: *Digital computers, *Computer logic, Construction.

MECHANICS

Andreev, V. B. and Sakharov, I. E.
DER ELASTIZITÄTSMODUL EINES STÄNDERSCHICHTPAKETS. (Modulus of Elasticity of Stator Plate Laminations). (text in German).
Order from T.I.B. $1.40

Trans. of Vestnik Elektropromyshlennosti (USSR) 1962, v. 33, no. 1, p. 42-44.

DESCRIPTORS: *Elasticity, *Electric motors.

Ionov, V. N.
TEMPERATURE STRESSES IN AN ELASTIC CYLINDER, tr. by George N. Kasachkoff and George F. Hill. 29 May 62 [12]p. 2 refs. AOMC Trans. nr 25-62.
Order from OTS or SLA $1.60 62-25116

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenie]. Mashinostroenie (USSR) 1958, no. 6, p. p. 75-80.

DESCRIPTORS: *Cylindrical bodies, *Elasticity, Temperature, *Stresses, Tensor analysis.

Mettler, E.
GENERAL THEORY OF THE STABILITY OF FORCED OSCILLATIONS OF ELASTIC BODIES (Allgemeine Theorie der Stabilität Erzwungener Schwingungen Elastischer Körper). [1962] 75p. 17 refs.
Order from SLA $7.60 62-18058

Trans. of Ingenieur-Archiv (Germany) 1949, v. 17, p. 418-449.

DESCRIPTORS: *Elasticity, Theory, *Oscillation, Stability, Equations of motion, Integration, Series.

The stability of elastic motion is analyzed by introducing into the variational equation a Ritz expression with time-dependent coefficients and then setting up the Euler differential equations for the coefficients.

Aerodynamics and Pneumatics

Abramovich, G[enrikh] N[aumovich].
TURBULENT JETS THEORY. 3 Aug 62 [792]p.
98 refs. MCL-1256.
Order from OTS or SLA $31.00 62-32675

Unedited rough draft trans. of mono. Teoriya Turbulentnykh Struy, Moscow, 1960, 715p.

DESCRIPTORS: *Jets, *Turbulence, *Gas flow, *Liquid jets, *Turbulent flow, Theory, Velocity, Heat transfer, Diffusion, Boundary layer, Combustion Wind tunnels, Drag, Wake.

This book considers the problems of free jets, wakes behind bluff bodies, jets confined by solid walls, and other cases. The first section deals with the theory of a turbulent jet of incompressible fluid. It gives a systematic analysis of numerous experimental data on velocity profiles, temperature and the impurity concentration, as well as the outlines of the turbulent mixing zone. A great deal of attention is given to a comparative analysis of different theories of free turbulence. A study is made of both submerged jets as well as those propagated through a stream of fluid (co-flow and counter-flow). The theory of a co-flowing stream is extended to cover the case of a turbulent jet behind a body; theoretical equations are derived for the thickness of the wake and the velocity on its axis, applicable both near to and far from the body. The second section sets forth the theory of turbulent gas jets, including strongly preheated and supersonic jets. The theory of free turbulence in a gas, suitable in principle for any degree of compressibility, is revised, and the equations are derived for motion and heat exchange in the boundary layer of a jet at very high temperature. The third section gives the solution of several problems of the spreading of jets in finite and semi-finite space: (1) flow directly behind a bluff body in a channel of constant section (detailed study is made of the region of back flow of a fluid). (2) a jet entering a channel closed at one end, and (3) a protective jet separating a stream of fluid from a solid wall ("homogeneous film").

Otmakhova, I. P.
FLOW OF RARIFIED GAS THROUGH A DIFFUSER (CONFUSER) (Istechenie Razrezhennogo Gaza Cherez Diffuzor (Konfuzor)). [1962] [17]p. (foreign text included) 4 refs.
Order from OTS or SLA $1.60 62-14006

Trans. of Moscow U. Vestnik. [Seriya Matematiki, Mekhaniki, Astronomii, Fiziki, Khimii] (USSR) 1959 [v. 14] no. 6, p. 51-57.
Another trans. is available in French from OTS or SLA $1.60 as 61-19590, CEA-tr-R1125, 23 Nov 60 [16]p.

DESCRIPTORS: *Gas flow, *Diffusers

We shall consider the motion of a gas through a diffuser (confuser) connecting two vessels. Since in the region of free molecular flow molecular collisions are neglected, it is possible to consider separately flow from vessel I into vessel II and flow from vessel II into vessel I. The rate of flow is then determined by superposing these two flows. (Author)

Rusanov, V. V.
CALCULATION OF INTERACTION OF NON-STEADY SHOCK WAVES WITH OBSTACLES (Raschet Vzaimodeistviya Nestatsionarnikh Udarnikh Voln s Prepyatstviyami) tr. by D. A. Sinclair. 1962. 19p.
8 refs. NRCC Technical trans. 1027.
Order from NRCC $1.00 NRCC C-4022

Trans. of Zhur[nal] Vychislitel'noi Matematiki i Matematicheskoi Fiziki (USSR) 1961, v. 1, no. 2, p. 267-279.

DESCRIPTORS: Aerodynamic data, *Shock waves, *Gas flow, Numerical analysis, Differential equations, Difference equations.

Hydrodynamics, Hydraulics, and Hydrostatics

STUDIES ON INDUCED VIBRATION AND PRESSURE DROP IN TUBE BUNDLES. Quarterly rept. no. 1 (4th. quarter 1960) on Contract [EURATOM 025-60-10 RDF]. 26 Jan 61, 19p. Supersedes TID-12473.
Order from OTS or SLA $1.60 EURAEC-50

Trans. of rept. from Société Grenobloise d'Etudes et d'Applications Hydraliques (France) 1960.

DESCRIPTORS: *Hydraulic models, *Pipes, Mechanical properties, Vibration, Pressure, Fluid flow, Steel.

Izbash, S. V.
ANSWER TO N. V. KHALTURINA: USING THE VALUE OF THE MAXIMUM FLOW CAPACITY FOR APPRAISAL OF CONDITIONS OF CLOSING RIVER CHANNELS (DISCUSSION OF N. V. KHALTURINA'S PAPER) (Otvet Inzhener N. V. Khalturinoi) tr. by June Stevens. Feb 61 [17]p. (foreign text included) 4 refs. Bureau of Reclamation Trans. 375.
Order from OTS or SLA $1.60 62-25126

Trans. of Gidrotekhnicheskoe Stroitel'stvo (USSR) 1960 [v. 30] no. 10, p. 53-55.

DESCRIPTORS: *Inland waterways, *Hydraulic research, Fluid flow, Geophysics, Rock, Mathematical analysis.

The inaccuracy of Khalturina's conclusions (Gidrotekhnicheskoe Stroitel'stvo 30: no. 10, 50-53, 1960; available in translation from OTS or SLA $1.60 as 62-25123) ensues from the mathematical incompleteness of her initial computations. (Author)

Khalturina, N. V.
USING THE VALUE OF THE MAXIMUM FLOW CAPACITY FOR APPRAISAL OF CONDITIONS OF CLOSING RIVER CHANNELS (Ob Ispol'zovanii Znacheniya Maksimal'noi Udel'noi Moshchnosti Potoka dlya Otsenki Uslovii Perekrytiya Rusel Rek) tr. by June Stevens. Feb 61 [17]p. (foreign text included) 5 refs. Bureau of Reclamation Trans. 374.
Order from OTS or SLA $1.60 62-25123

Trans. of Gidrotekhnicheskoe Stroitel'stvo (USSR) 1960 [v. 30] no. 10, p. 50-53.

DESCRIPTORS: *Inland waterways, *Hydraulic research, Fluid flow, Geophysics, Rock, Mathematical analysis.

Calculations indicate that the plan of Ishbash and Khaldre for determining the volume of rockfill for

closing a channel of great maximum unit capacity flowing across riprap of a stream is impossible. (See also 62-25126)

METALLURGY

SCIENTISTS AND SCIENTIFIC ORGANIZATIONS OF THE USSR. 13 Sep 61 [11]p. JPRS: 4968.
Order from OTS or SLA $1.60 61-28308

Trans. of #Metallovedenie i Termicheskaya Obrabotka Metallov (USSR) 1961, no. 4, p. 60-64.

DESCRIPTORS: *Scientific personnel, *Powder metallurgy, *Alloys, Metallurgy, Crystallization, *Metals.

Contents:
Results of the 1960 all-union competition for the D. K. Chernov and N. A. Minkevich prizes, by S. L. Rustem
All-Union Scientific and Technical Conference on Powder Metallurgy (no. 5) Moscow, 26-29 Sep 60, by V. S. Rakovskii.

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET FERROUS METALLURGY (61). 16 Aug 62 [26]p. JPRS: 14857.
Order from OTS or SLA $2.60 62-32462

Trans. of #Metallurg (USSR) 1962 [v. 7] no. 5, p. 1-2 and from Ekonomicheskaya Gazeta (USSR) 1962, no. 20[41] p. 12.

DESCRIPTORS: *Metallurgy, Industrial research, Industrial plants, Conferences, Labor unions, Industrial relations, Metals.

Contents:
The trend to combine metallurgical plants, by A. Zakharov
Congress of the Trade Union of Metallurgical Industry Workers (no. 6) by V. A. Podzerko.

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET NONFERROUS METALLURGY (36). 17 Aug 62 [23]p. JPRS: 14882.
Order from OTS or SLA $2.60 62-32448

Trans. of Bumazhnaya Promyshlennost' (USSR) 1962 [v. 37] no. 5, p. 19 and 20; and from Bakinskii Rabochii (USSR) 1962, 7 June; and Kazakhstanskaya Pravda (USSR) 1962, 14 June.

DESCRIPTORS: *Metallurgy, Industrial research, Quality control, Paper industry, *Wire screens, *Iron, *Pyrites, *Lead, *Mines, Labor, Production, *Copper, *Ores.

Contents:
Improvements in product quality at the Krasnokamsk metal screen plant, by A. T. Chumadurov

The case for greater utilization of iron pyrite of local origin in the Azerbaidzhan SSR, by I. Akhundov and A. El'darov
Innovations leading to greater efficiency at the Zyryanov Lead Mine imeni 22 S'ezda KPSS, by B. Grebenyuk
Plans to increase labor productivity at the Kafan copper ore mine by B. Ambartsumyan.

Bernshtein, M. L.
METAL WORKING OF HEAT RESISTING ALLOYS: LECTURE COURSE IN METAL WORKING, EQUIPMENT AND HEAT TREATMENT OF METALS. 24 May 62 [16]p. (2 figs. 1 table omitted). FTD-TT-62-273.
Order from OTS or SLA $1.60 62-32411

Unedited rough draft trans. of mono. Kurs Lektsii po Metallovedeniyu, Oborudovaniyu i Tekhnologii Termicheskoi Obrabotki Metallov; Metallovedenie Zharoprochnykh Splavov, Moscow, 1959, p. 40-50.

DESCRIPTORS: Metals, *Heat resistant alloys, Heat treatment, *Crystal structure, Deformation, *Plasticity, Chemical bonds, Dislocations, Gas turbines.

Borzdyka, A. M.
RELAXATION OF IRON-CHROMIUM-NICKEL ALLOYS AT HIGH TEMPERATURES. July 62, 800 words.
Order from HB $2.80 HB-5681

Trans. of #Metallovedenie i Term[icheskaya] Obrabotka Metallov (USSR) 1962, no. 7, p. 24-26.

DESCRIPTORS: *Iron alloys, *Chromium alloys, *Nickel alloys, Heat treatment, *Hardness.

Cavigli, M.
PRODUCTION OF FOUNDRY SILICON. July 62, 3400 words.
Order from HB $9.30 HB-5575

Trans. of la Metallurgia Italiana, 1960, v. 52, no. 8, p. 577-583.

DESCRIPTORS: *Silicon compounds, Silicon alloys, *Metallic compounds, Production, *Electric furnaces, Thermodynamics, Chemical impurities, Foundries.

Decroly, C. and Rixhon, V.
RESEARCH INTO THE USE OF GERMANIUM IN THE FABRICATION OF MAGNETIC SHEET. July 62.
Order from BISI £4 BISI-2786

Trans. of Rev[ue de] Mét[allurgie]. Mém[oires] Sci[entifiques] (France) 1961, v. 58, no. 12, p. 915-926.

DESCRIPTORS: *Magnetic materials, Sheets, *Germanium, Manufacturing methods.

Dlezek, Josef.
HERSTELLUNG VON FORMEN UNTER ANWENDUNG HÖHERER SPEZIFISCHER DRUCKE. (Manufacture of Molds by Using Higher Specific Pressure). 23p. (text in German).
Order from T.I.B. $1.91

Trans. of Slévárenstvi (Czechoslovakia) 1960, v. 8, no. 10, p. 341-347.

DESCRIPTORS: Pressure. *Castings.

Gubkin, S. I., Zvorono, B. P. and others.
THEORY FUNDAMENTALS OF METAL TREATMENT UNDER PRESSURE: CHAPS. IV AND VII. 17 May 62 [195]p. FTD-TT-61-4; AD-276 352.
Order from OTS or SLA $13.50 62-25816

Unedited rough draft trans. of mono. Osnovy Teorii Obrabotki Metallov Davleniem, Moscow, 1959, p. 148-240 and 297-348.

DESCRIPTORS: *Metallurgy, *Metals, Processing, Plasticity, Deformation, Theory, Mathematical analysis, Pressure, Stresses, Forging, Extrusion, Shear stresses.

Contents:
Computation of stresses and forces from approximate equations of equilibrium and plasticity
Application of a plastic-rigid diagram for the computation of deformation and resistance of a deformable body.

Hans, A. and Houbart, I.
METHODS OF SPECIMEN PREPARATION FOR X-RAY ANALYSIS. Aug 62.
Order from BISI £3 BISI-2764

Trans. of Revue Universelle des Mines (France) 1962 [v. 105, ser. 9] v. 18, Mar, p. 310-316.

DESCRIPTORS: Metallurgy, *X-rays, Analysis, Preparation, Theory.

Holzhey, J.
PROFILE DEVELOPMENT IN BLAST FURNACES DUE TO WEAR OF FIRECLAY AND CARBON LININGS. Aug 62.
Order from BISI £3 15s BISI-2708

Trans. of Neue Hütte (East Germany) 1961, v. 6 [no. 9] p. 553-557.

DESCRIPTORS: *Blast furnaces, *Brick, *Clays, Carbon, *Combustion chamber liners, Deterioration.

Ioffe, Ya. I.
ESTABLISHING THE POSITION OF FLAWS IN ULTRASONIC INSPECTION. July 62, 1000 words.
Order from HB $3.00 HB-5557

Trans. of #Zavodskaya Laboratoriya (USSR) 1962 [v. 28] no. 2, p. 242-245.

DESCRIPTORS: *Ultrasonics, radiation, Deformation, Welds, *Non-destructive testing.

Junghans, S.
PROCESS AND APPARATUS FOR CONTINUOUS CASTING. 1958, 3p. MDF J-102.
Order from OTS $0.50 62-11530

Trans. of German Patent Number 941566, Issued Apr 56.

DESCRIPTORS: *Casting, *Cooling.

A procedure for continuous casting by means of continuous chilling makes use of a protective layer on the casting surface. The melt is inserted under the protective layer in the mold, being conducted toward the protective layer from below when the inlet tube is released. Because the melt is distributed over the mold area directly under the protective layer in the quiet flow, there are no directed flows or vortices in the bulk of the melt. A bucketlike deflector is set in the liquid runner under the protective layer to reverse the melt inserted in the mold, thereby averting the formation of pipings, and flushing foreign particles to the mold boundary where they can be removed by facing the casting and the skin together.

Kalauch, C.
EXPERIMENTS ON THE CONTROL OF SULPHURIC ACID AND HYDROCHLORIC ACID PICKLING SOLUTIONS BY ELECTROLYTIC CONDUCTIVITY MEASUREMENTS. Aug 62.
Order from BISI £1 15s BISI-2745

Trans. of Neue Hütte (East Germany) 1961, v. 6 [no. 12] p. 795-796.

DESCRIPTORS: *Pickling compounds, *Sulfuric acid, *Hydrochloric acid, Electrolysis, Conductivity.

Koros, B.
EXPERIMENTS IN 1952 TO PRODUCE SPHEROIDAL-GRAPHITE CHILLED IRON ROLLS. July 62.
Order from BISI £9 10s BISI-2467

Trans. of Ontode (Hungary) 1953 [v. 4] no. 4, p. 73-82 and no. 5, p. 97-103.

DESCRIPTORS: *Iron, *Rolling mills, *Graphite, Magnesium.

Krasavtsev, N. L.
SOME THEORETICAL PROBLEMS CONNECTED WITH THE INJECTION OF REDUCING GASES INTO THE BLAST FURNACE. July 62, 2800 words.
Order from HB $8.40 HB-5539

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 12, p. 31-39.

DESCRIPTORS: *Blast furnaces, Gases, *Natural gas, Injection.

Kucharcik, L.
CALCULATION OF TIME NEEDED TO EMPTY A STOPPERED LADLE. July 62, 700 words.
Order from HB $2.75 HB-5658

Trans. of Giesserei (West Germany) 1962, v. 49, no. 2, p. 43.

DESCRIPTORS: *Casting, Mathematical analysis, Manufacturing methods.

Kunakov, N. E.
ENERGY PROBLEMS OF BLAST FURNACE OPERATION AT ELEVATED PRESSURES. Feb 60 [9]p. 4 refs. BISI Trans. 1583; [DSIR] NLL M. 4930.
Order from OTS or SLA $1.10 62-25876

Trans. of Stal' (USSR) 1955 [v. 15] no. 7, p. 637-639. Another trans. is available from BISI £4 5s as BISI-1583 [1960].

DESCRIPTORS: *Blast furnaces, Operation, Energy, Pressure, Gases, Specific heat.

For abstract see Technical Translations 3: 528, 1960.

Latour, A. and Heinen, L.
WARMING UP OF BASIC CONVERTERS AFTER RELINING AND AFTER BOTTOM REPLACEMENT BY THE BOTTOM-BURNER METHOD. July 62.
Order from BISI £3 5s BISI-2640

Trans. of Stahl und Eisen (West Germany) 1961, v. 81 [no. 19] p. 1270-1274.

DESCRIPTORS: *Furnaces, Heating, *Gas burners, Waste gases.

Neifel'd, I. E., Fal'kevich, A. S. and others.
QUALITY CONTROL IN FIELD WELDING. 22 May 62 [94]p. 4 refs. FTD-TT-62-274.
Order from OTS or SLA $8.60 62-32412

Unedited rough draft trans. of mono. Kontrol' Kachestva Svarki na Stroitel'stve, Moscow, 1960, p. 57-86, 93-121, 148-161.

DESCRIPTORS: *Welding, *Quality control, Test methods, *Radiographic analysis x-rays, Gamma rays, Photographic recording systems, *Magnetic fields, Magnetometers, Magnetic recording systems, *Electromagnetism, *Ultrasonic equipment, Metallurgical laboratories, Non-destructive testing.

Rotenshtein, B. F. and Muntyanu, A. P.
EFFECT OF HEAT TREATMENT ON RESIDUAL STRESSES IN FERROMAGNETIC LAYERS. July 62.
Order from HB $2.00 HB-5444

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 15-16.

DESCRIPTORS: *Ferromagnetic materials, *Nickel, *Iron alloys, *Stresses, Heat treatment, Electrodeposition.

Sebl, Josef.
EXPERIENCE IN PRESSURE DIE CASTING (OF STEEL) IN THE USSR. July 62, 2100 words.
Order from HB $6.50 HB-5358

Trans. of Slevarenstvi (Czechoslovakia) 1960, v. 8, no. 9, p. 331-332.

DESCRIPTORS: *Dies, *Casting, Pressure, Machines, Manufacturing methods, Steel.

Skvortsov, A. V.
CONVEYORIZED FURNACE FOR ANNEALING OF PIPE. July 62, 800 words.
Order from HB $2.90 HB-5187

Trans. of Liteinoe Proizvodstvo (USSR) 1960, no. 6, p. 42-43.

DESCRIPTORS: *Furnaces, *Conveyors, *Automation, *Annealing, *Pipes, Manufacturing methods.

Smirnov, F. F., Eikhmans, E. F. and others.
CUTTING PROPERTIES OF HARD ALLOYS OF INCREASED STRENGTH. 11 May 62, 3p. AID Rept. 62-60.
Order from OTS or SLA $1.10 62-25149

Abstract trans. of #Stanki i Instrument (USSR) 1962 [v. 33] no. 3, p. 27-30.

DESCRIPTORS: *Carbide tools, *Carbides, Sintering, Cutting tools, Mechanical properties, Life expectancy, Machine tools, Alloys.

The following three sintered carbides were tested: (1) TT7K12 - 4% TiC, 3% TaC, 81% WC, 12% Co; (2) TT7K15 - 4% TiC, 3% TaC, 78% WC, 15% Co; and (3) T5K12B - 5% TiC, 83% WC, 12% Co. The density of the three carbides is 13.1, 12.7 to 13.0, and 12.9 to 13.0 g/cm^3, respectively. Rockwell A hardness for all three is 87 to 88; bending strength is 155 kg/mm^2 min. The carbides are of coarser grain structure than standard carbides. All three experimental carbides were considerably superior to standard T5K10 carbide (5% TiC, 85% WC, 10% Co) with regard to strength but inferior with regard to wear resistance. The carbides also proved superior to BK8 tungsten carbide (8% Co) with regard to strength and to BK15 tungsten carbide (15% Co) with regard to tool life (triple that of BK15). Life of carbides sintered in vacuum was 20 to 25% higher than carbides sintered in hydrogen atmosphere.

Thielmann, K.
HARDNESS AND SPRING BACK OF METAL WIRES. [1962] 5p. (4 figs. 1 table [refs.] omitted).
Order from SLA $1.10 62-14632

Trans. of Zeitschrift für Metallkunde (West Germany) 1961, v. 52, no. 5, p. 368-370.

DESCRIPTORS: *Wire, *Copper wire, Metals, Hardness, Hardening, Deformation, Heat treatment, Elasticity.

A simple apparatus is described which allows the determination of torsional back spring on wires. This method, because of its high sensitivity and simple design may, in some cases, replace penetration hardness measurements. The Brinell hardness is related in a straightforward manner to the torsional back spring and the modulus of elasticity. (Author)

Ullmann, J.
ELECTRIC ROLL ADJUSTMENT FOR HEAVY PLATE MILLS (WITH APPENDIX). Feb 62.
Order from BISI 2 15s BISI-2544

Trans. of Blech (West Germany) 1961, v. 8, Jan, p. 6-8.

DESCRIPTORS: *Rolling mills, *Electronic equipment, Control systems.

Vasil'ev, B. L.
THE VIBRATIONAL TREATMENT OF METALS BY PRESSURE. Aug 62.
Order from BISI £2 10s BISI-2901

Trans. of #Vestnik Mashinostroeniya (USSR) 1962 [v. 42] no. 1, p. 61-62.

DESCRIPTORS: *Forge presses, *Metals, Pressure, *Vibration.

Vero, Jozsef.
BIOGRAPHY OF DR. ALADAR SCHLEICHER. 20 Apr 62 [8]p. JPRS: 13528.
Order from OTS or SLA $1.10 62-24246

Trans. of Magyar Tudomanyos Akademia Muszaki Tudomanyok Osztalyanak Kozlemenyei (Hungary) 1961, v. 29, no. 1/4, p. 39-42.

DESCRIPTORS: *Scientific personnel, Metallurgy, Chemical engineering.

Volkov, V. N., and Pevzner, I. Z.
SCALE FORMATION MINIMIZED BY ELASTIC ULTRASONIC VIBRATIONS. July 62, 2300 words.
Order from HB $7.80 HB-5679

Trans. of #Tsvetnye Metally (USSR) 1962 [v. 35] no. 3, p. 48-53.

DESCRIPTORS: *Scale, *Mullite, *Bauxite, *Ultrasonics, Vibration.

Volotkovskii, S. A. and Bunko, V. A.
FRAGEN DER VOLLSTANDIGEN AUTOMATISIERUNG VON AUFBEREITUNGSANLAGEN. (Problems of the Complete Automation of Dressing Plants). (text in German).
Order from T.I.B. $1.55

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii, Gornyi Zhurnal (USSR) 1961, no. 1, p. 123-126.

DESCRIPTORS: *Automation, *Metallurgy, Ores.

Ferrous Metals

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET FERROUS METALLURGY (57). 2 Aug 62 [19]p. JPRS: 14711.
Order from OTS or SLA $1.60 62-32210

Trans. of Gornyi Zhurnal (USSR) 1962, no. 4, p. 16-18; Na Stroikakh Rossii (USSR) 1962, May, p. 14-16 and from Ekonomicheskaya Gazeta (USSR) 1962, no. 23 (44) p. 28.

DESCRIPTORS: Metallurgy, Iron, *Industrial production, *Ores, *Economics, Construction, Weapons, Manufacturing methods, *Casting, Agricultural machinery, Supplies.

Contents:
Analysis of the structure of capital investments in the ferrous-metallurgy ore industry, by L. M. Feigin

Extensive new construction in Chelyabinskaya Oblast, by G. Reva
Presision casting at the Tula arsenal, by V. Chernopyatov
Metal suppliers' lack of cooperation impedes agricultural building, by N. Abelev.

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET FERROUS METALLURGY (58). 7 Aug 62 [17]p. JPRS: 14758.
Order from OTS or SLA $1.60 62-32371

Trans. from Pravda, Moscow (USSR) 1962, 8 June, p. 3; and Ekonomicheskaya Gazeta (USSR) 1962, no. 23(44) p. 12.

DESCRIPTORS: Industrial production, Iron industry, *Metallurgy, *Steel tubing, Petroleum industry, *Iron alloys

Contents:
Principal trends of technical progress in metallurgy, by V. Boiko
Problems of producing steel tubes for the petroleum industry, by V. D'yakov and others
Organize properly the production of ferroalloys, by G. Serov

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET FERROUS METALLURGY (59). 7 Aug 62 [17]p. JPRS: 14759.
Order from OTS or SLA $1.60 62-32373

Trans. from Izvestiya (USSR) 1962, 17 June, p. 4; Ekonomicheskaya Gazeta (USSR) 1962, no. 24(45) p. 33; no. 25(46) p. 7.

DESCRIPTORS: *Industrial production, Iron, Metallurgy, *Furnaces, *Mining engineering, Ores, Machines, *Agricultural machinery, Manufacturing methods.

Contents:
Innovations in the converter shop of the Krivorozhstal' Plant, by V. Popov
Expanding open-pit mining in the Krivoi Rog iron ore basin, by M. Oksanich
Research at the Central Design and Technology Bureau of the Odesskii Sovnarkhoz, by Iv. Batov
Criticism of the mining machine builders, by P. Nesterov.

SOVIET INDUSTRIAL DEVELOPMENT: [SELECTED] TRANSLATIONS ON SOVIET FERROUS METALLURGY (62). 16 Aug 62 [19]p. JPRS: 14862.
Order from OTS or SLA $1.60 62-32450

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 5, p. 3-13.

DESCRIPTORS: Metallurgy, Industrial research, Metals, *Casting, Steel, *Steel castings, Rolling mills, *Iron, Ores, *Magnetite, Manufacturing methods.

Contents:
Continuous casting of rimmed steel to produce hot-rolled metal, by G. M. Itskovich
Obtaining high-iron magnetite-hematite concentrates, by N. A. Aleinikov and others.

Baranov, I. A., Oiks, G. N., and Ansheles, I. I.
IMPROVEMENTS IN PRODUCTION PROCESS OF BALL-BEARING STEEL. July 62, 2800 words.
Order from HB $7.80 HB-5549

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 5, p. 50-57.

DESCRIPTORS: *Steel, *Ball bearings, Production, Melting.

Becker, W.
EQUIPMENT FOR GRADING AND STACKING OF THICK AND MEDIUM PLATES. Aug 62.
Order from BISI £3 10s BISI-2879

Trans. of Blech (West Germany) 1961, v. 8, July, p. 494-497.

DESCRIPTORS: *Industrial equipment, Graders, Storage, Steel.

Belinkin, A. L. and Shchennikova, A. A.
INVESTIGATION OF ACCELERATED HEAT TREATMENT OF PRECISION CASTINGS OF STEEL. July 62.
Order from HB $3.00 HB-5454

Trans. of #Metallov[edenie i] Term[ichskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 55-57.

DESCRIPTORS: *Steel castings, Heat treatment, Mechanical properties, Microstructure, *Cutting tools.

D'yachenko, S. S. and others.
STUDY OF SOFTENED ZONE DURING WELDING OF STEELS. July 62.
Order from HB $2.50 HB-5447

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 24-26.

DESCRIPTORS: *Steel, *Welding, Microstructure, Hardness, X-ray diffraction analysis, Spectrographic analysis, Electron microscopy.

Fridman, Ya. B. and Egorov, V. L.
EFFECT OF WORK-HARDENING ON PROGRESSIVE DAMAGE UNDER THERMAL FATIGUE. July 62.
Order from HB $3.40 HB-5448

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 27-30.

DESCRIPTORS: *Steel, *Austenite, Titanium alloys, Fatigue (Mechanics), *Hardening, *Thermal stresses.

Funke, P. and Lueg, W.
INVESTIGATIONS ON SCALE FORMATION ON PLATE ROLLED IN UNDER DIFFERENT CONDITIONS. Aug 62.
Order from BISI £5 5s BISI-2743

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1961, v. 32 [no. 3] p. 133-144.

DESCRIPTORS: *Steel, Pickling, Surface properties, *Scale.

Heischkeil, Werner and Kootz, Theo.
CONTRIBUTION TO THE DYNAMICS OF STEEL-MAKING PROCESSES. [1961] 13p. 10 refs.
Order from SLA $1.60 62-10496

Trans. of Stahl und Eisen (West Germany) 1959, v. 79, no. 4, p. 205-210.
Another trans. is available from BISI £4 5s BISI-1265 [1959].

DESCRIPTORS: *Steel, Processing, Dephosphorization

For abstract see Technical Translations 2: 604, 1959.

Kalinnikov, and Zabuluev.
ZUR FRAGE DES WASSERSTOFFGEHALTES IM LEGIERTEN ELEKTROSTAHL. (On the Hydrogen Content in Alloyed Electric Steel). 7p. (text in German)
Order from T. I. B. $1.55

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii, Chernaya Metallurgiya (USSR) 1961, no. 2, p. 45-50.
Another trans. is available in English from HB $8.75 as HB-5149, Aug 61, 3100 words.

DESCRIPTORS: *Hydrogen, *Steel.

Khachaturov, S. S. and Epshtein, G. N.
EFFECT OF LOW TEMPERING ON MECHANICAL PROPERTIES OF CARBURIZING STEELS 30KhGT AND 20KhN3A. July 62.
Order from HB $2.00 HB-5445

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 17-19.

DESCRIPTORS: *Steel, Mechanical properties, Deformation, Temperature.

Knöppel, H. and Öters, F.
THE PHOSPHORUS-OXYGEN EQUILIBRIUM IN THE PRESENCE OF LIQUID IRON AND LIME-SATURATED PHOSPHATE SLAGS. Aug 62.
Order from BISI £5 15s BISI-2646

Trans. of Stahl und Eisen (West Germany) 1961, v. 81 [no. 22] p. 1437-1449.

DESCRIPTORS: *Slags, Iron, *Calcium compounds, Oxides, *Phosphorus, Oxygen, *Chemical equilibrium, Phosphates.

Koch, W.
ON THE BEHAVIOR OF COPPER, PHOSPHORUS AND ARSENIC IN THE ELECTROLYTIC DECOMPOSITION OF IRON ALLOYS. July 62, 3200 words.
Order from HB $8.90 HB-5562

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1962, v. 33, no. 2, p. 85-89.

DESCRIPTORS: *Iron alloys, *Electrolysis, Decomposition, *Copper, *Phosphorus, *Arsenic.

Kostenko, A. V. and others.
STRUCTURE OF NITRIDED 11% Cr, 1.5 W, 0.5% V STEEL AFTER HOLDING AT HIGH TEMPERATURES. July 62.
Order from HB $3.00 HB-5452

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 48-52.

DESCRIPTORS: *Stainless steel, *Austenite, *Nitrides, Chromium alloys, Microstructure, X-ray diffraction analysis, *Hardness, Tungsten alloys, Vanadium alloys.

Kryulin, A. V.
SULFURIZING AND PROPERTIES OF SULFURIZED STEEL AND IRON. July 62.
Order from HB $3.80 HB-5449

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 31-40.

DESCRIPTORS: *Steel, *Iron, *Sulfuration, *Cyanides, Microstructure, Surface properties.

Kudryavtsev, L. V. and others.
CAUSES OF THE REDUCED FATIGUE STRENGTH OF STEEL IN CONTACT AREAS. July 62.
Order from HB $2.90 HB-5442

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 3-7.

DESCRIPTORS: *Steel, *Fatigue (Mechanics), Stresses, Corrosion.

Laffolie, H. de.
CONTRIBUTION TO X-RAY FLUORESCENCE ANALYSIS OF ALLOY STEELS. July 62, 440 words.
Order from HB $12.50 HB-5563

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1962, v. 33, no. 2, p. 101-106.

DESCRIPTORS: Alloys, *Steel, *Nickel alloys, *X-rays, Fluoresence.

Lakhtin, Yu. M. and Pchelkina, M. A.
BORONIZING OF HIGH-ALLOY STEELS. July 62, 1500 words.
Order from HB $3.80 HB-5660

Trans. of #Metallovedenie i Term[icheskaya] Obrab[otka] Metallov (USSR) 1961, no. 3, p. 27-30 and 35.

DESCRIPTORS: *Stainless steel, *Heat resistant alloys *Boron, Impregnation, Hardening.

Paidassi, J.
CONCERNING THE GROWTH OF NEEDLES OF THE HEMATITE PHASE IN OXIDE FILMS OF IRON AT HIGH TEMPERATURES. [1961] [7]p. 10 refs.
Order from SLA $1.10 62-10801

Trans . of Acta Metallurgica (U. S.) 1958, v. 6, no. 12, p. 778-[780].

DESCRIPTORS: *Iron, Oxides, Films, *Ores, Crystals, Oxidation.

[Pchelkina] M. A. and Lakhtin, Yu. M.
BORONIZING IN A BORON TRICHLORIDE ATMOSPHERE. July 62.
Order from HB $2.75 HB-5450

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 40-42.

DESCRIPTORS: *Iron, *Steel, *Boron compounds, Chlorides, Microstructure, Impregnation.

Pearson, J.
THE PRESENT STATE OF THE CONTINUOUS CASTING OF STEEL. Aug 62.
Order from BISI 5 10s BISI-2938

Trans. of Berg- und Hüttenmännische Monatshefte (Austria) 1962, v. 107, Apr, p. 96-106.

DESCRIPTORS: *Steel, Casting, Manufacturing methods.

Ryabinin, Yu. N., Beresnev, B. I., and Demyashkevich, B. P.
THE CHANGE IN THE MECHANICAL PROPERTIES OF IRON, DEFORMED THROUGH EXTRUSION BY A HIGH PRESSURE LIQUID. 27 Feb 62 [8]p. 3 refs. FTD-TT-62-150.
Order from OTS or SLA $1.10 62-25543

Unedited rough draft trans. of #Fizika Metallov i Metallovedenie (USSR) 1961, v. 11, no. 4, p. 630-633.

DESCRIPTORS: *Iron, Mechanical properties, Deformation, Extrusion, Plasticity, Liquids, High pressure research.

With an increase in the stage of preliminary deformation, the durability of the metal increased and its plasticity decreased.

Severdenko, V. P. and Malei, T. P.
PRESSING OF COMPONENTS FROM LIQUID STEEL. June 62.
Order from BISI £2 5s BISI-2827

Trans. of [Akademiya Navuk BSSR, Minsk. Doklady] 1961, v. 5, no. 6, p. 253-255.

DESCRIPTORS: *Steel, Liquid metals, *Metal forming presses.

Simon, J. and Xercavins, P.
THE CONVENTIONAL CHARACTER OF PROOF STRESS IN HARD STEELS FOR PRESTRESSING. July 62.
Order from BISI £3 5s BISI-2853

Trans. of mono. International Congress on Prestressed Concrete, Ghent, 1961, paper B. 28.

DESCRIPTORS: *Steel, Physical properties, Stresses, Deformation.

Stich, Wilhelm.
ELECTRICAL RESISTANCE HEATING FOR [THE] PROCESSING OF STEEL [WITH DISCUSSION]. [1962] [57]p. (refs. omitted).
Order from SLA $5.60 62-18042

Trans. of reprint of Stahl und Eisen (West Germany) 1957, v. 77, no. 7, p. 394-408 ([Verein Deutscher Eisenhuttenleute (West Germany). Berichte]-236 and 212).
Another trans. is available from SLA $2.60 as 61-16345 [1961] [30]p.

DESCRIPTORS: *Steel, Processing, Heat treatment, Rolling mills.

The advantages are enumerated of resistance heating as compared with other heating processes and the layout of an industrial machine is described in detail. After solving the contact problem there were no other fundamental difficulties to be overcome so that the machine - temporarily in an auxiliary status - could be set into operation. The results give justification to rebuild this temporary auxiliary apparatus to an extensive industrial machine which will consist of a preheating furnace and three heaters. The machine operates in conjunction with an existing Fast-Rolling Mill producing high grade steel. The results achieved with the auxiliary machine were interpreted. According to the data there were important advantages obtained in the field of scaling, decarbonization and other qualitative effects on rolled steel, especially when a quenching process is connected with rolling. The economy of the process can also be considered as positive on the basis of the results obtained until now. (Author)

Trenkler, H.
THE DEVELOPMENT OF CONTINUOUS STEEL CASTING IN AUSTRIA. Aug 62.
Order from BISI £2 15s BISI-2936

Trans. of Berg- und Hüttenmännische Monatshefte (Austria) 1962, v. 107, Apr, p. 73-76.

DESCRIPTORS: *Steel, Casting, Manufacturing methods, Austria.

Vishkarev, A. F. and others.
EFFECT OF RARE-EARTH ELEMENTS ON THE SURFACE TENSION OF LIQUID IRON. July 62, 2600 words.
Order from HB $6.90 HB-5600

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii], Chern[aya] Met[allurgiya] (USSR) 1962, no. 3, p. 60-66.

DESCRIPTORS: Liquid metals, *Iron, *Steel, *Rare earth elements, *Cerium, *Lanthanum, Misch metal, *Surface tension.

Yakhontov, A. G. and Kozlov, P. M.
DISTRIBUTION OF ALPHA PHASE OVER THE FATIGUE FRACTURE OF 18-9 Ti STAINLESS STEEL. July 62, 1000 words.
Order from HB $3.60 HB-5542

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1961, no. 12, p. 114-116.

DESCRIPTORS: *Stainless steel, Titanium alloys, *Austenite, Phase transitions, Fatigue (Mechanics), Fracture (Mechanics).

Yasnogorodskii, I. Z.
NEW APPLICATIONS OF HEATING IN ELECTROLYTE. 15 Feb 62 [13]p. FTD-TT-62-48.
Order from OTS or SLA $1.60 62-24470

Unedited rough draft trans. of mono. Novoe v Elektricheskoi i Ultrazvukovoi Obrabotke Materialov, n. p., 1959, p. 167-173.

DESCRIPTORS: *Electrolytes, *Iron, *Steel castings, *Pistons, Heat treatment, *Hardening, Heat transfer.

Consideration is given to the surface hardening of piston pins and of details from pig iron and steel castings.

Zemskov, G. V. and others.
NITRIDING OF STEEL UNDER ULTRASONIC VIBRATIONS. July 62, 800 words.
Order from HB $2.90 HB-5659

Trans. of #Metallovedenie i Term[icheskaya] Obrabotka Metallov (USSR) 1961, no. 3, p. 40-42.

DESCRIPTORS: *Steel, *Nitrides, *Ultrasonic radiation, Vibration, *Hardening.

Nonferrous (except light) Metals

Charynyan, L. A. and Kestner, O. E.
BEHAVIOR OF ALLOYS UNDER DRY FRICTION AT ELEVATED TEMPERATURES. July 62.
Order from HB $3.25 HB-5446

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 19-24.

DESCRIPTORS: Alloys, *Tin alloys, *Aluminum alloys, *Nickel alloys, *Bronze, Friction, Temperature.

Klushin, D. N. and Nadinskaya, O. V.
AN INVESTIGATION OF THE REACTIONS OF STANNOUS AND STANNIC OXIDES WITH FERROUS SULPHIDE (Issledovanie Reaktsii Vzaimodeistviya Zakisi i Okisi Olova s Sernistym Zhelezom) tr. by D. R. Eddy. [1962] [19]p. (foreign text included) 6 refs. [CSIRO] Trans. 5686.
Order from OTS or SLA $1.60 62-25638

Trans. of #Zhurnal Prikladnoi Khimii (USSR) 1961, v. 34, no. 7, p. 1461-1469.

DESCRIPTORS: *Tin, Tin compounds, Oxides, *Iron compounds, Sulfides, Chemical reactions.

The reaction between stannous oxide and ferrous sulfide over the 600° to 750°C range is accompaned by the decomposition of stannous oxide according to $3SnO = Sn_2O_3 + Sn$, and $2SnO = SnO_2 + Sn$, with the simultaneous occurrence of $4SnO + 3FeS = 3SnS + Fe_3O_4 + Sn$.

At 750°C and above practically only the third reaction takes place except for a slight secondary side reaction consisting of sulfidation of the metallic tin formed according to the reaction. A study of the reaction of stannic oxide with ferrous sulfide over the 600° to 1000°C range showed that the reaction begins at about 1000°C and proceeds according to $5SnO_2 + 6FeS = 5SnS + 2Fe_3O_4 + SO_2$. Ferrous sulfide is not as good a sulfidation agent for stannic oxide as for stannous oxide.

Smirnov, A. V. and Nachinkov, A. D.
NITRIDING OF TITANIUM AT REDUCED PARTIAL PRESSURE OF NITROGEN. July 62.
Order from HB $4.50 HB-5451

Trans. of #Metallov[edenie i] Term[icheskaya] Obrab[otka] Met[allov] (USSR) 1960, no. 7, p. 42-47.

DESCRIPTORS: *Titanium, Iodides, *Nitrides, Argon, Vapor pressure.

Structural Metallurgy and Corrosion

Colombier, L.
CERTAIN FACTORS IN THE CORROSION OF STAINLESS STEELS IN AQUEOUS SOLUTIONS. July 62.
Order from BISI £6 5s BISI-2770

Trans. of mono. Colloquium on Metallurgy: Corrosion of Steel (no. 3) [1959. Proceedings] p. 111-125.

DESCRIPTORS: *Corrosion, *Stainless steel,

Hatwell, H.
STUDY OF THE PRECIPITATION OF CHROMIUM CARBIDE RESPONSIBLE FOR INTERCRYSTALLINE CORROSION IN AUSTENITIC STAINLESS STEELS. July 62.
Order from BISI £3 15s BISI-2771

Trans. of mono. Colloquium on Metallurgy: Corrosion of Steel (no. 3) [1959. Proceedings] p. 137-146.

DESCRIPTORS: Chromium compounds, *Carbides, *Corrosion, *Stainless steel, Precipitation.

Karnov, M. Ya.
ON THE DETERMINATION OF WORK OF DEFORMATION UNDER CONDITIONS OF VIBRATIONAL LOADING. Aug 62.
Order from BISI £ 3 BISI-2903

Trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1961 [v. 3] no. 6, p. 21-23.

DESCRIPTORS: *Deformation, Vibration.

Pouillard, E.
CORROSION OF STAINLESS STEELS BY PURE WATER AT HIGH TEMPERATURE. July 62.
Order from BISI £3 15s BISI-2772

Trans. of mono. Colloquium on Metallurgy: Corrosion of Steel (no. 3) [1959] Proceedings] p. 147-160.

DESCRIPTORS: *Corrosion, *Stainless steel, Water, Temperature, Metallurgy.

Rozenfel'd, I. L., Pavluzkaya, T. I. and others.
INVESTIGATION OF METAL CORROSION. 5. NEW METHODS AND EQUIPMENT FOR THE STUDY OF CORROSION (Issledovaniya po Korrozii Metallov. 5. Novye Metody i Pribory dlya Korrozionnykh Ispytanii), tr. by J. P. Ruban. [1962] [34]p. (foreign text included) 18 refs. [CSIRO] Trans. no. 5692.
Order from OTS or SLA $3.60 62-32239

Trans. of Akad[emiya] Nauk SSSR. Institut Fizicheskoi Khimii. Trudy, 1959, v. 7, p. 22-40.

DESCRIPTORS: *Metals, *Corrosion, Thin films, Electrolytes, Test methods, Test equipment.

Spangenberg, D.
STRAIN PATTERNS ON WELDED JUNCTIONS BETWEEN FLAT BARS AND ANGLE IRONS AS LOAD CARRYING MEMBERS. Aug 62.
Order from BISI £ 7 15s BISI-2695

Trans. of Schweissen und Schneiden (West Germany) 1962, v. 14, no. 1, p. 14-23.

DESCRIPTORS: *Welded joints, *Angle bars, Rods, Stresses, Fatigue (Mechanics), Deformation.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

ATOMIC ENERGY, 1962, VOL. 12, NO. 5: [SELECTED ARTICLES]. 8 Aug 62 [78]p. 27 refs. JPRS: 14766.
Order from OTS or SLA $7.60 62-32376

Trans. of #Atomnaya Energiya (USSR) 1962, v. 12, no. 5, p. 378-391, 404-407, 415-421.

DESCRIPTORS: *Atomic energy, *Gas-cooled reactors, Heat transfer, *Graphite, *Reactor fuels, Porous materials, *Lithium, Isotopes, Ion exchange resins, *Reactor cores, *Heterogeneous reactors, *Reactor moderators, Density.

Contents:
A study of convective heat transfer from a gas-graphite mixture during flow within vertical channels, by Z. R. Gorbis and R. A. Bakhtiozin
The theory of swelling of porous materials, by V. M. Agranovich and E. Ya. Mikhlin
Separation of lithium isotopes on a cation-exchange resin by the method of moving band with sharp edges, by N. I. Nikolaev and others
Zonal profiling of reactors, by N. N. Ponomarev-Stepnoi
Physical profiling of the heat release in heterogeneous power reactors, by N. N. Ponomarev-Stepnoi and E. S. Glushkov
Solution of reactor equipment taking account of the variable density of the moderator in physical profiling, by N. N. Ponomarev-Stepnoi and E. S. Glushkov.

Aglintsev, K. K. and Ostromukhova, G. P.
ROENTGEN READINGS IN THE γ-RADIATION RANGE, WITH QUANTUM ENERGY OF 0.25-3 MEV (Vosproizvedenie Rentgena v Oblast γ-Izlucheniya s Energiei Kvantov 0.25 - 3 Mev). [1962] [18]p. 20 refs.
Order from OTS or SLA $1.60 62-23690

Trans. of Komitet Standartov, Mer i Izmeritel'nykh Priborov. Trudy Institutov Komiteta (USSR) 1961, no. 55(115) p. 55-65.

DESCRIPTORS: *Sulfur, Beta particles, *Cobalt, Gamma rays, *Radioactivity, Measurement, Dose rate.

As a result of measurements of β -radiation of S^{35} and γ-radiation of Co^{60}, it has been shown that the corresponding currents of saturation arising in chambers with pressures up to 20 atm, can be calculated by the Jaffe-Zanstra method, with values of potentials at the chamber electrodes of from 6 to 18 kv. Here it is necessary to set C equal to 1.24×10^{-4}. The condition for measurement in roentgens with a standard installation has been achieved for quantum energies up to 3 Mev. Taking into account all the correction coefficients, the value of the γ -radiation of Co^{60} as obtained with the VNIIM standard installation coincides within 2.5% with the corresponding value as obtained with the standard installation at the U. S. National Bureau of Standards. (Author)

#NEWS OF THE ACADEMY OF SCIENCES OF THE USSR, PHYSICS SERIES, 1961, VOL. 25, NO. 1: SELECTED ARTICLES. 15 Jan 62 [31]p. 40 refs. FTD-TT-61-175; AD-270 771.
Order from OTS or SLA $3.60 62-15817

Unedited rough draft trans. #Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1961, v. 25, no. 1, p. 61-67, 124-129, 143-144.

DESCRIPTORS: Nuclear physics, *Nuclear energy, *Internal conversion, Electron transition, Feasibility studies, *Tantalum, Tungsten, *Uranium, Hafnium, Radioactive isotopes, *Radioactive decay, Nuclei, Particles, Electrons, Rotation, Fission products.

Contents:
Internal conversion with pair production during the decay of Ta^{182} by S. S. Vasilenko and others
Masses of heavy atoms and binding energies of nuclei in the $174 \leq M \leq 329$ range, by R. A. Demirkhanov and others
Determination of the mean lifetime of the excited states of U^{235} fission fragments, by B. M. Shiryaev.

[NUCLEONICS] 1959, VOL. 4, NO. 4: [SELECTED ARTICLES] tr. by Eugene Lepa. 1961, 91p. 86 refs. PL-480 AEC.
Order from OTS $0.75 AEC-tr-4153

Trans. of Nukleonika (Poland) 1959, v. 4, no. 4, p. 347-363, 365-404, 417-437, 441-458, 462-471.

DESCRIPTORS: *Nucleonics, *Radioisotopes, *Applied mechanics, *Meteorology, *Iron compounds, Oxides, Ions, Gamma rays, *Tritium, *Phase studies, *Organic compounds, Labeled substances, Synthesis, *Reactor kinetics, Simulation, *Geophysics, Conferences, *Electron counters, *Monitors.

Contents:
Some applications of radioisotopes in mechanical and metallurgical investigations, by L. Jurkiewicz

On the reduction of ferric oxide ions caused by the effect of gamma-radiation upon aqueous solutions containing certain organic substances, by A. I. Chernova and S. Ya. Mints
Tritium; radioisotope of hydrogen, by W. Smulek
Measurement of tritium activity in the gaseous phase, by E. Herczynska
Some problems on the synthesis of organic labelled compounds, by A. Szuchnik and others
Reactor kinetics simulator, by W. Filipczak and M. Sztajnkoler
The development of nuclear geophysics, by K. Przewlocki
Conference of Physics Chairs of Higher Technical Schools, Krakow, 24-25 Nov 58, by J. Niewodniczanski
Communication on Conference of Commission on Radioactive Contamination of the Atmosphere, Hydrosphere and Geosphere, Warsaw, 23-24 Feb 59
Electron scaler type PD-56, by A. Kurczewski
Portable counter monitor type ML-56, by A. Kurczewski

Portable counter monitor type ML-57, by A. Kurczewski
1959 awards of State Council for Peaceful Uses of Nuclear Energy World news.

[NUCLEONICS] 1959, VOL. 4, NO. 5: [SELECTED ARTICLES]. 1961, 93p. 166 refs. PL-480 AEC.
Order from OTS $0.75 AEC-tr-4154

Trans. of Nukleonika (Poland) 1959, v. 4, no. 5, p. 473-484 ##[487-489] 491-520, 523-545, 547-565, 567-584.
##Another trans. is available from LC or SLA mi$1.80 ph$1.80 as AEC-tr-4213, 19 July 60, 3p.

DESCRIPTORS: *Nucleonics, *Radiochemistry, Liquids, *Sodium compounds, Nitrates, Reduction, *Test reactors, *Analog computers, *Ionization chambers, *Radiobiology, Biochemistry, Water, Radiological contamination, *Thermal neutrons, *Coincidence counting, Triggered gates, *Monitors, Neutrons, Austria.

Contents:
Some aspects of radiation chemistry in aqueous solutions, by S. [Ya.] Mints and L. Stolarczyk
##On the radiolytic reduction of aqueous sodium nitrate solutions saturated with hydrogen, by V. A. Sharpatyi and others
Selecting the characteristics of a materials testing reactor, by W. Frankowski
Analogue computers in reactor engineering and the simulator at the Czechoslovak Institute of Nuclear Physics, by M. Krejci and others
Ionization current chambers used in the control of nuclear reactors, by W. Dabek
Radiological work of health protection division of Nuclear Research Institute, by A. M. Dancewicz
Examination of the Vistula water within the limits of Greater Warsaw, by W. Hermanowicz and others
100-Channel time-of-flight analyzer designed to work with mechanical slow-neutron selector, by A. Sawicki
Gated coincidence circuit type UK-0.1, by L. Marszolek and T. Niewiadomski

G-M laboratory monitor type ML-6, by A. Kurczewski
Symposium on Neutron Transport Theory, Warsaw
Nuclear research in Austria
World news.

[NUCLEONICS] 1959, VOL. 4, NO. 6: [SELECTED ARTICLES]. 1961, 99p. 67 refs. PL-480 AEC.
Order from OTS $1.00 AEC-tr-4155

Trans. of Nukleonika (Poland) 1959, v. 4, no. 6, p. 592-597, 599-609, 611-623, 625-637, 639-653, 655-663, 665-696.

DESCRIPTORS: *Nucleonics, *Uranium compounds, Fluorides, Liquid metals, *Aluminum, *Carbon compounds, Monoxides, *Iodine compounds, Oxides, *Radioactive isotopes, Gamma rays, *Scintillation counters, Spectographic analysis, Uranium, *Thorium *Potassium, *Nuclear power plants, *Reactor safety systems, Conferences, *Photomultipliers, Power supplies, *Integrators, Vacuum apparatus, *Pulse height analyzers.

Contents:
Investigations on the reduction of uranium (IV) fluoride by liquid aluminum in molten salt mixtures, by W. Trzebiatowski and others
Some relations between the mechanism of the reaction $CO_{(gas)} \xrightarrow{I_2O_5} CO_{2(gas)}$ and the kinetic isotope effect for C^{14}, by I. Zlotowski and M. Zielinski
Applications of radioisotopes in Poland in 1958, by R. Broszkiewicz
Gamma-ray scintillation spectrometer in use for simultaneous estimation of the concentration of uranium, thorium and potassium in specimens of rocks and soils, by S. Zmyslowska
Nuclear power prospects and the world trends in power production costs, by R. Pomerski
Reliability of reactor coincidence safety systems, by T. Owczarski
Congress of the Polish Chemical Society (no. 6) Warsaw, 9-12 Sep 59, by A. Pasternak
Photomultiplier power supply unit type Z St 2400/3, by T. Niewiadomski

Integrator type 3/58, by R. Jakubowski
Single-channel automatic scintillation spectrometer, by T. Florkowski and L. Gorski
Low-voltage power supply unit type ZSn 400-5, by M. Szymczak
Vacuometer type 1PI 2PE, by J. Krzywdziak
Ten-channel amplitude analyzer type AWA 10, by S. Kolber
World news.

Filippova, T. I., Filippov, N. V. and others.
MEASUREMENT OF THE ELECTRON TEMPERATURE OF THE PLASMA IN A STRONG SHOCK WAVE, tr. by A. N. Dellis. Mar 62 [12]p. 7 refs.
AERE Trans 893.
Order from OTS or SLA $1.60 62-25557

Trans. of Nuclear Fusion (Austria) 1961, v. 1, no. 3, p. 195-197.

DESCRIPTORS: *Shock waves, *Plasma physics, *Thermonuclear reactions, Control, Deuterium, Conductivity, Electrons, Temperature, Measurement, Velocity, Magnetic fields.

The electron conductivity of the deuterium plasma behind a strong shock wave was measured by the expelled magnetic flux method. At shock-wave velocities of from 0.9×10^7 to 1.25×10^7 cm. sec^{-1} electron temperatures of 50 and 90 ev were found. A comparison was made between the observed electron temperature and that calculated from the shock velocity. Piezoelectric measurements and the compression of the plasma by a strong magnetic field gave the same value of gas-kinetic pressure (≈4 atm) for the plasma.

Kamienski, Bogdan, Mikulski, Jan and others.
APPLICATION OF A PLUTONIUM MONITOR IN SURFACE POTENTITAL STUDIES. 25 Jan 62 [8]p.
JPRS: 12165.
Order from OTS or SLA $1.10 62-19663

Trans. of Nukleonika (Poland) 1961, v. 6, no. 2, p. 99-105.

DESCRIPTORS: *Plutonium, *Monitors, Surface properties, Electric potential, *Dielectrics.

On the basis of a comparison of the surface potentials of the studied substances, it was established that there is [agreement between results of the ionization method and those of the flow method.] In the case of a solution of Miltown and a plutonium monitor, the value of the surface potential of a dilute solution was 390 I 3 mv. When using the flow method, such values were obtained only from more concentrated solutions. The differences of the potential values for lower concentration can be explained by assuming, the "life period" of the surface in the case of the flow method is short (fractions of seconds) and therefore prevents the large assymetric molecules of Miltown from accumulating. In the case of the ionization method, the "life period" of the surface is long enough to allow the accumulation of the molecules without delay. The observed dependence of the potential adjustment time on the distance between the monitor and the surface (layer of air) indicates the possibility of increasing the time of adjustment by employing α-particles of stronger intensity. Considereing the half life of the Pu^{239} isotope, the plutonium monitor is a good source of ionized particles. On the other hand, a polonium monitor is less convenient since the half-life of polonium is only 138 days.

Polak, L. S. and Temkin, A. Ya.
CONTRIBUTION TO THE THEORY OF RADIATION CHEMISTRY. [1962] 5p. 3 refs.
Order from OTS or SLA $1.10 62-16569

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 125 [no. 3] p. 584-587.
Another trans. is available from CB $5.00.

DESCRIPTORS: *Radiochemistry, Theory, Physical chemistry, Free radicals, Particle trajectories.

Two problems are examined in the present work: the discount of interaction of tracks and the method for approximate calculation of quantity of free radicals and of final products of (γ- or β-) radiolysis. Formulae are given that permit calculation of the number of free radicals and of final products in radiolysis: the calculation is reduced to the solution of a diffusion equation, satisfied by g, and to a calculation of squares.

Stanyukovich, K. P.
RADIATION OF GRAVITATIONAL WAVES BY "ELEMENTARY PARTICLES". 23 Jan 62 [18]p. 9 refs.
FTD-TT-61-394; AD-270 761.
Order from OTS or SLA $1.60 62-15824

Unedited rough draft trans. of Moscow U. Vestnik. [Seriya 3: Fizika, Astronomiya] (USSR) 1961 [v. 16] no. 5, p. 71-82.

DESCRIPTORS: *Gravity, *Wave transmission, Nucleons, Relativity theory, Quadrupole moments, Nuclear spins, Mesons.

The radiation of gravitational waves by nucleons is considered. It is proposed that the waves can arise as a consequence of the "spin" of a meson cloud near the nuclear core. The radiation bears a quadrupole character. The energy borne away by the gravitational waves is calculated. It is proposed that in this manner it is possible to explain the gravitational field of particles, for which purpose the dimensions of the core ($r_0 \approx 10^{-14}$ cm) and the pulse frequency of the meson cloud ($\omega_0 \approx 10^{24}$ sec $^{-1}$) are calculated. (Author)

Rabinovich, M. S.
THE PRESENT AND FUTURE OF ACCELERATOR TECHNOLOGY. 8 June 62 [23]p. FTD-TT-62-385.
Order from OTS or SLA $2.60 62-32285

Unedited rough draft trans. of Nauka i Zhizn' (USSR) 1960 [v. 27] no. 5, p. 17-23.

DESCRIPTORS: *Accelerators, *Synchrotrons, Electron beams, Focusing, Magnets, *Particle accelerators.

Elementary Particles

Kulikov, O.
CALCULATION OF THE ENERGY OF THE POLARIZED RADIATION OF "SCINTILLATING" (LIGHT-EMITTING) ELECTRONS (Raschet Energii Polyarizovannogo Izlucheniya "Svetyashchegosya" Elektrons). [1962] [11]p. 5 refs.
Order from OTS or SLA $1.60 62-25570

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1959, no. 3, p. 95-101

DESCRIPTORS: *Electrons, Energy, Electromagnetic waves, *Polarization, Synchrotrons, Mathematical analysis.

Formulas were derived suitable for the numerical calculation of energy of the polarized electromagnetic radiation of electrons accelerated in a synchrotron, they are applicable to the cases of continuous variation of energy in the accelerated particles according to a sinusoidal law. Calculation was made of the variation in relationship of the intensities of the components of radiation polarization over a wide range of the spectrum (9,000-3,000 Å) for three values of the maximal energy of acceleration of the electrons (150, 200 and 250 Mev). (Author)

Smorodinskii, Ya. A.
SCATTERING OF PARTICLES OF HIGH ENERGIES: LECTURES NO. 5 [SELECTED] PART AND NO. 8 READ AT SUMMER CONFERENCE OF YUGOSLAVIAN PHYSICISTS AT LOGSHIRE ISLAND, 13-27 July 57. [1962] 5p. 4 refs.
Order from OTS or SLA $1.10 UCRL Trans-434

Trans. of mono. (lectures) issued by Ob"edinennyi Institut Yadernykh Issledovanii. Laboratoriya Teoreticheskoi Fiziki, Moscow, 1957, p. 20-21 and 33-34.

DESCRIPTORS: *Particles, *Scattering, *Nucleons, *Hyperons, *Antiprotons, Atomic energy levels, Energy, Yugoslavia.

Contents:
Results of experiments on scattering of nucleons by nucleons
Hyperons and antinucleons.

Volosnykh, N. A.
ON THE COMPUTATION OF THE MOTION OF ELECTRONS IN A BETATRON WITH AN INCREASING [TOROIDAL] MAGNETIC FIELD (I Raschetu Dvizheniya Elektronov v Betatrone s Narastayushchim Toroidal'nym Magnitnym Polem). [1962] [8]p. 2 refs. AERDL T-1498. AD-276 802.
Order from OTS or SLA $1.10 62-25336

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. [Fizika] 1961, no. 2, p. 46-51.

DESCRIPTORS: *Betatrons, *Electrons, Motion, *Particle trajectories, Determination, Electron accelerators, Particle accelerators, Magnetic fields

Formulas are given for computing the trajectory of electrons in the initial stage of acceleration in a betatron with a toroidal magnetic field for a constant rate of increase of this field. A small curvature of the betatron chamber is assumed. (Author)

Nuclear Engineering and Power

PROCESS FOR THE UTILIZATION OF ATOMIC ENERGY AND NUCLEAR REACTOR FOR CARRYING OUT SAID PROCESS, tr. by P. C. C. 22 June 62, 12p. (3 figs. omitted).
Order from OTS or SLA $1.60 62-25695

Trans. of Swiss patent 286,658, cl. 112, by Gebrüder Sulzer, A. G., appl. 9 Nov 50, recorded 31 Oct 52, pub. 2 Mar 53.

DESCRIPTORS: *Nuclear power plants, *Atomic energy, Chain reactions.

A process is proposed for the utilization of atomic energy using the heat produced by a chain reaction, whereby pieces of reactive material, separated by a moderator, are combined in sufficient quantity in a nuclear reactor, to generate a chain reaction and the intensity of the chain reaction in the nuclear reactor is regulated by a neutron absorbing material. The heat generated is absorbed inside the nuclear reactor by a fluid maintained under high pressure in order to increase the heat absorptivity thereof. The heat is conveyed to the outside for further utilization, and the nuclear reactor therefore consists of a number of substantially cylindrical elements through which the compressed fluid passes and along the axis of which the re-

active material is arranged. The element jackets are made of a low neutron absorptivity material and maintained at a low temperature to provide a high resistance to the fluid pressure existing therein by putting the external surfaces of said jackets in contact with a coolant and lining the internal surfaces thereof with a heat insulating material.

Kramerov, A. I., Fridman, I. B. and Ivanov, S. A.
WÄRMESPANNUNGEN IN REAKTORKONSTRUKTIONEN. (Thermal Stresses in Reactor Constructions). (text in German).
Order from T.I.B. $1.40

Trans. of Atomnaya Energiya (USSR) 1960, v. 8, no. 2, p. 101.

DESCRIPTORS: *Thermal stresses, *Nuclear power plants.

PHYSICS

Molochnov, G. V.
ELECTROMAGNETIC DIPOLE METHOD FOR DETERMINING THE DEPTH OF AN EMBEDDED LAYER OF FINITE CONDUCTIVITY (Dipol'nyi Elektromagnitnyi Metod Opredeleniya Glubiny Zaleganiya Sloya Konechnoi Provodimosti) tr. by A. Pingell. 12 Jan 62, 16p. 7 refs. N R L Trans. no. 880.
Order from OTS $0.50 62-11599

Trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15] no. 10 [Seriya Fizika i Khimii, no. 2] p. 34-44.

DESCRIPTORS: *Electromagnetic fields, Magnetic moments, *Dipole moments, *Conductivity, Penetration, Dielectrics.

Formulae for the field of a vertical magnetic dipole in case of the finite conductivity of the first (upper) and second (lower) layers are developed. Displacement currents in the air are taken into consideration. The

depth of the buried conductive layer is shown to be determined with the help of the expressions for the infinitely conductive base providing the depth of electromagnetic field penetration of the second (lower) layer is taken into account. (Author)

Hunault, Rene.
GENERATOR OF HEAT OR INFRARED WAVES, tr. by J. R-P. 19 Apr 62, 5p. (3 figs. omitted).
Order from OTS or SLA $1.10 62-24507

Trans. of French first addition patent 69,149 (to 1,128,613) gr. 12, cl. 7, internat. cl. H 05 b, appl. filed 2 Mar 56, granted 28 Apr 58, pub. 1 Oct 58 (principal patent appl. 26 May 55).

DESCRIPTORS: *Generators, *Infrared radiation, Production, Heat production.

Spartakov, A. A. and Tolstoi, N. A.
THE STABLE DIPOLE MOMENT OF PARTICLES OF AEROSOLS. [1962] 3p.
Order from K-H $3.75 K-H 8388-c

Trans. of #Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1955, v. 29, [no. 3] p. 385.
Another trans. is available from OTS or SLA $1.10 as 61-16441 [1961] 3p.

DESCRIPTORS: *Dipole moments, *Aerosols, *Particles, Smokes, Polarization, Light transmission, Tobacco, Test methods, Electrical properties, Optics, Photoelectric effect.

For abstract see Technical Translations 7: 46, 1962.

Velizhanina, K. A.
SOUND ABSORBERS WITH A PERFORATED FACING (Zvukopoglotiteli s Perforirovannoi Panelyu) tr. by A. Neal. [1962] [20]p. (foreign text included) 10 refs. [CSIRO] Trans. no. 5670.
Order from OTS or SLA $1.60 62-25639

Trans. of #Akusticheskii Zhurnal (USSR) 1961, v. 7, no. 2, p. 165-173.

DESCRIPTORS: *Sound, *Absorption, Materials, Porous materials, Acoustics.

The method is shown of calculation of the sound absorption characteristics of a construction which consists of a layer of porous material with an air space behind it, covered on the sound incidence side with a perforated facing. The sound absorption characteristic covers a significantly wider band if the inertia of the facing, as it increases with frequency, is compensated

in a certain range by a negative reactive impedance component of the layer. (Author)

Electricity and Magnetism

Bulaevskii, L. N.
ON THE INSTABILITY OF UNIFORM PRECESSION OF MAGNETIZATION. [1962] [17]p. 11 refs.
Order from OTS or SLA $1.60 62-10634

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1961, v. 4 [no. 4] p. 639-647.
Another trans. is available from OTS or SLA $22.25 in 62-23650, JPRS-12990, 15 Mar 62 [422]p.

DESCRIPTORS: Electromagnetic waves, Magnetic fields, Magnetic moments, Ferromagnetism, Stability, Magnetism.

The stability of uniform precession of magnetization is considered in linear and non-linear (in the spin waves) approximations, for arbitrary angles between magnetic field and magnetic moment. It is shown that only the uniform precession of small amplitude is stable; under all other conditions the spin waves grow

rapidly, destroying the magnetization. Inverted states of ferromagnetic systems are found to be unstable. The special case is considered where the excited ferromagnetic gives up its total energy to the magnetic field. (Author)

Bunimovich, V. I.
FLUCTUATING PROCESSES AS OSCILLATIONS WITH RANDOM AMPLITUDES AND PHASES [Flyuktuatsionnyi Protsess Kak Kolebanie so Sluchainymi Amplitudoi i Fazoi]. [1961] [42]p. 23 refs.
MDF B-121.
Order from OTS or SLA $4.60 62-32700

Trans. of Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1949, v. 19, no. 11, p. 1231-1259.

DESCRIPTORS: *Electric current, Voltage, *Oscillation, Phase measurement, Statistical analysis.

Considered in this work is the question of the representation of a stationary fluctuating process in the form of a sinusoidal oscillation with a random amplitude (envelope) and phase. (Author)

Pauthenet, R.
THE MAGNETIC PROPERTIES OF THE FERRITES OF YTTRIUM AND OF RARE EARTHS OF THE FORMULA $5Fe_2O_3.3M_2O_3$. (Les Proprietes Magnetiques des Ferrites d'Yttrium et de Terres Rares de Formule $5Fe_2O_3.3M_2O_3$). [1962] [46]p. 39 refs.
H-4789.
Order from OTS or SLA $4.60 62-25260

Trans. of Annales de Physique (France) 1958 [ser. 13, v. 3] May/June, p. 424-462.

DESCRIPTORS: *Yttrium compounds, *Rare earths, *Ferrites, *Crystals, Magnetic properties, Magnetic moment, Paramagnetism.

The magnetic properties of the ferrites of rare earths are interpreted along the line of the ideas developed by L. Neel on the subject of ferromagnetism. The intensities of the interactions between magnetic ions are in the same order of magnitude as those acting in the spinel ferrites. The interactions of exchange between two neighboring magnetic ions are a function of the distance between magnetic curves; the corresponding curve can be joined in a continuous manner to the same curve which is drawn for the metals.

Simasek, Jerzy.
CRITICAL MAGNETIC FIELDS OF THIN LEAD FILMS. 5 Dec 61 [12]p. JPRS: 11320.
Order from OTS or SLA $1.60 62-19566

Trans. of Acta Physica Polonica, 1961 [v. 20] no. 7, p. 553-561.

DESCRIPTORS: *Cryogenics, *Superconductivity, *Thin films, *Lead, Cryostats, *Magnetic fields

The critical magnetic fields have been measured for thin films of lead within a temperature interval equal to about 1.2° K below the critical temperature of lead. Films 3.5×10^{-6} cm to 1.16×10^{-4} cm thick were measured. For thin films the phase transitions from the superconducting state to the normal or vice versa are reversible in the presence of a magnetic field. For thick films the transitions are reversible only close to the critical point T_K, while for temperatures farther from T_K the transitions are accompanied by the appearance of hysteresis. Even at temperatures close to T_K, the maximum value of the hysteresis was obtained. (Author)

Electronics

ELECTRONICS: 1. COMPUTER AND CONTROL ELEMENTS. 2. SEMICONDUCTORS. 3. FERRITES. 4. MISCELLANEOUS. [1959] 9p.
Order from RIS RIS Technical Bulletin 184

Abstracts of trans. from selected German patent literature available including purchase information.

DESCRIPTORS: *Electronics, *Computers, Control, *Control systems, *Semiconductors, *Ferrites, Abstracting, Pulse transformers.

NEWS OF THE INSTITUTES OF HIGHER LEARNING-RADIOPHYSICS, 1961, VOL. 4, NO. 3: SELECTED ARTICLES. 17 July 62 [54]p. 38 refs. FTD-TT-61-91.
Order from OTS or SLA $5.60 62-32514

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1961, v. 4, no. 3, p. 444-475.
Another translation is available from OTS or SLA $22.25 in 62-23412, JPRS-12754, 1 Mar 62 [410]p.

DESCRIPTORS: *Electromagnetic waves, *Plasma physics, Particles, Low frequency, Penetration, Propagation, Electrons, Density, Magnetic fields, *Electronics.

Contents:
The instability of low-frequency electromagnetic waves in a plasma penetrated by a stream of charged particles, by M. S. Kovner
The problem of the propagation of electromagnetic waves in a nonequilibrium magnetoactive plasma, by M. I. Petelin
Parameter fluctuations of an electromagnetic field propagated through a magnetoactive plasma with random fluctuations of electron density and the magnetic field, by F. G. Bass.

SPECIALIZED ELECTRONICS: BIBLIOGRAPHY. 12 Sep 61 [89]p. 559 refs. AID rept. 61-132; AD-265 436.
Order from OTS or SLA $8.10 61-28797

DESCRIPTORS: Bibliography, *Electronics,

Contents:
General
Applications
Conferences
Tubes, transistors, crystal diodes
Electric components
Circuits, complete equipment
Statistical analysis
Testing.

Morgulis, N. D. and Tolpygo, K. B.
APPLICATION OF POLARON REPRESENTATIONS TO THE THEORY OF THERMIONIC ELECTRON EMISSION OF POLAR SEMICONDUCTORS [Primeneni e Polyaronnykh Predstavlenii k Teorii Termoelektronnoi Emissii Polyarnykh Poluprovodnikov]. [1961]7p. 11 refs. MDF M-111.
Order from OTS $0.50 62-11370

Trans. of Zh[urnal] Eksp[erimental'noi] Teoreticheskо] Fiz[iki] (USSR) 1953, v. 25, no. 6(12) p. 718-722.

DESCRIPTORS: *Semiconductors, *Thermionic emission, Theory, *Oxide cathodes, Barium compounds, Oxides, Single crystals, Electrons.

There are considered the peculiarities of the theory of thermionic electron emission of polar semiconductors possessing conduction polarons. Here the application

of polaron theory leads to several interpretations of the results of certain experiments and permits the calculation of values of the internal work function of an electron which is important for thermionic emission, etc. An attempt is made to apply the polaron representation to the case of an impure single crystal of BaO as being a model of a thermionic oxide cathode. (Author)

Picquendar, J. E. and Cahen, O.
METHODS OF THEORETICAL STUDY OF TYPE "O" FOCUSING. [1962] 38p. 1 ref.
Order from SLA $3.60 62-14842

Trans. of C[ompagnie] F[rançaise] T[homson]-H[ouston]. Revue Technique: [Electronique] 1960, no. 32, p. 7-39.

DESCRIPTORS: *Electron beams, *Electron guns, *Focusing, Space charges, Theory.

Molecular Physics and Spectroscopy

Frisman, E. V., Martsinovskii, A. M., and Domnicheva, N. A.
OPTICAL ANISOTROPY OF MACROMOLECULES OF POLYSTYRENE DERIVATIVES. [1961] [9]p. 22 refs.
Order from OTS or SLA $1.10 62-13834

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1960, v. 2, p. 1148-1153.

DESCRIPTORS: *Styrenes, *Polymers, *Optics, Polarization, Molecular rotation.

The segmental anisotropy of polystyrene derivatives was measured by the method of flow birefringence. Analysis of the experimental data indicates that the nature of rotation of the side groups may be considered to be the same in molecules of poly-p-chlorostyrene, poly-2, 5-dimethylstyrene, and polystyrene. This assumption does not satisfy the experimental findings for poly-2, 5-dichlorostyrene. In this case the extent to

which the rotation of the side groups is impeded must be regarded as differing from the extent to which the rotation of the benzene rings is impeded in the molecule of polystyrene.

Kazitsyna, L. A. and others.
DIE ULTRASPEKTREN DER FERROCENE. (The Ultraviolet Spectrums of the Ferrocenes). 3p. (text in German).
Order from T. I. B. $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 127 [no. 2] p. 333-336.

DESCRIPTORS: *Ultraviolet spectroscopy, *Ferrocenes

Kitaigorodkii, A. Y. and Fedin, E. Y.
RADIO SIGNALS FROM MOLECULES. 30 Mar 62 [15]p. JPRS: 13326.
Order from OTS or SLA $1.60 62-23777

Trans. of Priroda (USSR) 1961 [v. 50] no. 11, p. 44-52

DESCRIPTORS: *Radio signals, *Molecular structure, *Spectrographic analysis, Quantum mechanics, Prisms (Optics), Paramagnetic resonance, Magnetic moments, Free radicals, Nuclei.

Nathe, R., Schintlmeister, J. and others.
FOCUSING METHODS IN A SHORT FOCAL-LENGTH BETA SPECTROMETER. 29 Jan 62 [19]p. JPRS: 12188.
Order from OTS or SLA $1.60 62-24544

Trans. of Experimentelle Technik der Physik (East Germany) 1961, v. 9, no. 1, p. 1-12.

DESCRIPTORS: *Beta ray spectrometers, *Electromagnetic lenses, Focusing, Magnet coils.

Investigations are described which were carried out in order to establish the focusing characteristics of a thin magnetic-lens Beta spectrometer. In analogy to the case of spherical lenses in optics, there occur spherical aberrations also in magnetic lenses, which have a significant effect upon the focusing characteristics of a lens spectrometer. For the improvement of focusing, and thus also of the resolving power, there

are, practically speaking, two possibilities: (1) introduction of annular stops, and (2) reduction of spherical aberration by correction coils. Either of the above methods resulted in about the same improvement of resolution.

Ostrovskii, Yu. I.
RELATIVE F NUMBERS OF THE LEADING MEMBERS OF DIFFUSE AND SHARP SERIES OF Al I [Otnositel'nye Chisla f Golovnykh Dhlenov Diffuznoi i Rezkoi Serii Al I]. [1962] 3p. 6 refs.
Order from OTS or SLA $1.10 62-14262

Trans. of Optika i Spektr[oskopiya] (USSR) 1957, v. 2, no. 5, p. 673.

DESCRIPTORS: *Aluminum, *Spectrographic analysis, Oscillation.

The ratios of the oscillator strengths were measured for 4 strong lines of Al I by the "hooks" method of D. S. Rozhdestvenskiy. (See also 62-15508)

Sokolov, N. N., Andrianov, K. A., and Akhitova, S. M.
MASS-SPECTROMETRIC STUDY OF ORGANIC CHLOROSILANES. [1961] 14p. 14 refs.
Order from OTS or SLA $1.60 62-10475

Trans. of article from an unidentified Russian source, 1954(?).

DESCRIPTORS: *Mass spectrometers, *Spectrographic analysis, Organic compounds, *Silanes, *Silicon compounds, Methyl radicals, Ethyl radicals, Phenyl radicals.

The following were analyzed on the mass-spectrometer: trichlormethylsilane, dimethyldichlorsilane, trimethylchlorsilane, trichlorethylsilane, diethyldichlorsilane, triethylchlorsilane, trichlorphenylsilane, methylphenyldichlorsilane, and silicon tetrachloride. The nature of their decomposition was determined. It was found that decomposition occurs primarily due to the breaking away of the component which is predominant with respect to silicon - the organic radical or chlorine. In compounds of the type $RSiCl_3$, the probability of rupture in the bond Si-Cl is twice that of the bond Si-R; in compounds of the type R_3SiCl, there is greater probability of rupture in the bond Si-R. In compounds of the type R_2SiCl_2, probability of rupture in the bond Si-R is twice that of the bond Si-Cl. Probability of rupture in the bond Si-R decreases with an increase in the radical. (Author)

Optics

Kerkhof, Frank.
ON THE OPTICAL TESTING OF GLASS PANES WITH UNEVEN SURFACES (Zur Optischen Prüfung von Glasscheiben mit Unebenen Oberflächen). [1962] [46]p. (foreign text included) 11 refs.
Order from SLA $4.60 62-16414

Trans. of Glastechnische Berichte (West Germany) 1957, v. 30, no. 9, p. 369-379.

DESCRIPTORS: *Glass, Wedges, Surfaces, Optics, *Optical glass, Light transmission, Test methods, Refraction, Deflection

Terenin, A. N.
OPTICS OF SURFACE PHENOMENA (Optika Poverkhnostnykh Yavlenii). [1962] [11]p. (foreign text included).
Available on loan from SLA 62-16527

Trans. of Leningrad U. Vestnik (USSR) 1946 [v. 1] no. 1, p. 13-18.

DESCRIPTORS: *Crystals, Surface properties, Optical analysis, Molecular spectroscopy, Adsorption, Gases.

Solid State Physics

Boltaks, B. I. and Fedorovich, N. A.
DIFFUSION UND LÖSLICHKEIT VON SILBER IN WISMUTTELLURID. (Diffusion and Solubility of Silver in Bismuth Tellurid). 2p. (text in German).
Order from T. I. B. $1.40

Trans. of Fizika Tverdogo Tela (USSR) 1962, v. 4, no. 2, p. 550-552.

DESCRIPTORS: *Diffusion, *Solubility, *Silver, *Bismuth alloys, *Tellurides.

Gross, E.
BORN THEORY OF THE CRYSTAL LATTICE AND OF LIGHT SCATTERING. [1962] 4p. 4 refs. MDF G-136.
Order from OTS $0.50 62-11192

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1946, v. 54, no. 9, p. 787-789.

DESCRIPTORS: *Crystal structure, Lattices, Oscillation, *Light, Scattering, *Raman spectroscopy, Sodium compounds, Chlorides.

The rock salt Raman spectrum is the most complete experimental confirmation of the validity of the Born concept. (Author)

Ioffe, A. F.
SEMICONDUCTOR THERMOELEMENTS. 15 May 62 [109]p. 64 refs. USASIA Trans. Log no. 1308.
Order from OTS or SLA $9.10 62-24498

Trans. of mono. [Poluprovodnikovye Termoelementy] Moscow, 1960 [187p.].
A partial trans. (p. 82-125 and 156-181) is available from OTS or SLA $7.60 as 62-23377, FTD-TT-61-96, 18 Jan 62 [76]p.

DESCRIPTORS: *Semiconductors, Materials, *Thermoelectricity, Power supplies, Liquids, Gases, Theory, *Thermoelectric generators, Thermal conductivity, Solids, Solid state physics, Thermionic emission.

Contents:
Thermoelectric phenomena
Power applications of thermo elements

Choice of materials for thermoelements
Examples of thermoelectric devices
Liquid, gaseous and vacuum thermoelements
Appendix: Table of Fermi functions

Izyumov, Yu. A. and Skrotski, G. V.
MAGNETIC SPIN RESONANCE IN CONDUCTION ELECTRONS IN ALKALINE AND FERROMAGNETIC METALS. [1961] 6p. 8 refs. MDF I-128.
Order from OTS $10.50 62-11436

Trans. of mono. Ferrity [Ferrites] Minsk, 1960, p. 513-518.

DESCRIPTORS: *Alkaline earth metals, *Ferrites, *Ferromagnetic materials, *Resonance absorption, Electrons, Spin, Resonance.

The natural absorption-line shape in the conduction electrons of a metal is found on the basis of the general theory of magnetic relaxation developed by Kubo and Tomita (J. Phys. Soc. Japan 9: 6, 1954). Results indicate that resonance energy absorption is possible in an ideal gas of quasi-particles and electrons if the energy of the quasi-particles depends on the spin projection.

Karpova, I. V., Alekseeva, V. G., and Kalashnikov, S. G.
DIE REKOMBINATIONSEIGENSCHAFTEN VON GOLD IN n-GERMANIUM. (The Recombination Properties of Gold in n-germanium). (text in German).
Order from T. I. B. $1.85

Trans. of Fizika Tverdogo Tela (USSR) 1962, v. 4, no. 3, p. 634-641.

DESCRIPTORS: *Germanium, Gold.

Kuchaev, V. L. and Boreskov, G. K.
CONNECTION BETWEEN THE CATALYTIC ACTIVITY AND SEMICONDUCTOR PROPERTIES OF GERMANIUM. [1961] 4p. 4 refs.
Order from OTS or SLA $1.10 AEC-tr-4857

Trans. of Problemy Kinetiki i Kataliza (USSR) 1960, v. 10, p. 108-110.

DESCRIPTORS: *Germanium, *Semiconductors, Catalysis, Antimony Gallium.

The following germanium samples were investigated: pure (ρ = 50 om · cm), n-type with an antimony admixture (ρ = 0.01 om · cm) and p-type with a gallium admixture (ρ = 0.08 om · cm) with respect to isotopic exchange reaction in molecular hydrogen in the region of 120-270°. It was found that at 150° the pure germanium sample has the greatest activity. The

samples containing antimony and gallium have an activity one order lower. The difference in activities decreases with an increase in temperature. (Author)

Rodot, Huguette.
SEMI-CONDUCTORS: STUDY AND PROPERTIES OF THE AgSbTe[-PbTe SYSTEM. [1962] 3p. (2 figs. omitted) 6 refs.
Order from SLA $1.10 62-16699

Trans. of Academie des Sciences [Paris]. Comptes Rendus (France) 1959, v. 249, p. 1872-1874 (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Semiconductors, *Silver compounds, *Antimony compounds, *Tellurium compounds, *Lead compounds, Crystal structure, Electrical properties, Thermal conductivity.

Stavitskaya, T. S. and Stilbans, L. S.
DIE STREUUNG DER ELEKTRONEN AN DEN BEIMISCHUNGSIONEN IM BLEITELLURID. (Diffraction of Electrons at the Ions of Admixtures in Lead Telluride) (text in German)
Order from T. I. B. $1.55

Trans. of Fizika Tverdogo Tela (USSR) 1960 [v. 2] no. 9, p. 2082-2084.

DESCRIPTORS: *Diffraction, *Electrons, *Lead compounds, *Tellurides.

Topshchiev, A. V., Geiderich, M. A. and others.
ÜBER DIE MÖGLICHKEIT, POLYMERE STOFFE MIT HALBLEITEREIGENSCHAFTEN AUS POLYACRYLNITRIL HERZUSTELLEN. (The Possibility to Produce Polymers with the Qualities of Semiconductors on the Basis of Polyacrylonitrile). 5p. (text in German).
Order from T. I. B. $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 128 [no. 2] p. 312-315.
Other translations are available from LC or SLA mi$1.80, ph$1.80 as 61-10370, 60-10390, and 60-14273; from OTS $0.50 as 60-21773, APL/JHU TG-230-T167, 10 May 60, 5p.

DESCRIPTORS: *Semiconductors, *Acrylonitriles, Polymers.

Tsinzerling, E. V.
INVESTIGATION OF THE HARDNESS AND FRAGILITY OF QUARTZES OF GRANULAR AND SECTORIAL COMPOSITION BY IMPRESSION METHOD. [1962] 6p. 3 refs.
Order from OTS or SLA $1.10 62-16426

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 60, no. 6, p. 1033-1036.

DESCRIPTORS: *Quartz crystals, Transformations, Hardness, Mechanical properties, Fracture (Mechanics), Crystal structure, Colors, Illumination, X-rays.

Dark-colored and similar components of quartz crystals, colored by X-rays are subjected with difficulty to the twinning process under beta passes over to alpha passes over to beta transformation; they differ by

smaller micro-hardness and greater heterogeneity and fragility from the colorless and light-colored components. (Author)

Tyablikov, S. V.
"STUDY ON ELECTRON THEORY OF CRYSTALS", BY S. I. PEKAR: REVIEW. [1961] [12]p. MDF T-111.
Order from OTS or SLA $1.60 62-25865

Trans. of Usp[ekhi] Fiz[icheskikh] Nauk (USSR) 1952, v. 48, no. 3, p. 447-451.

DESCRIPTORS: *Crystal structure, Electrons, *Semiconductors, *Dielectrics.

The present monograph to a considerable extent sums up the studies of S. I. Pekar and his pupils and colleagues relative to the theory of semi-conductors and dielectrics with ionic crystal lattices completed in the course of recent years. (Author)

Vasko, O. T.
RECTIFYING PROPERTIES OF AN ELECTROLYTE-SEMICONDUCTOR (OXIDE OF TUNGSTEN) CONTACT [1962] 4p.
Order from OTS or SLA $1.10 62-10617

Trans. from Akademiya Nauk URSR [Kiev]. Dopovidi, 1961, no. 6.

DESCRIPTORS: *Tungsten compounds, Oxides, *Electrolytes, *Semiconductors, Rectifiers, Electrodes, Platinum.

By passing a constant current through a cell of 0.4 N sulfuric acid, with one electrode of platinum and the other of tungsten wire initially treated in a hydrogen atmosphere at 950°C, we found that the system has a different resistance in the forward direction than in the reverse. When the tungsten served as cathode,

and the platinum as anode, the current was 220 ma and when the platinum was cathode and the tungsten the anode, the current was 2 ma, giving a ratio of 100 to 1 with 60 volts applied. (Extracted)

Vol'kenshtein, F. F. and Sandomirskii, V. B.
UBER DEN EINFLUSS DES AUSSEREN ELEKTRISCHEN FELDES AUF DIE ADSORPTIONSFAHIGKEIT DES HALBLEITERS. (The Influence of the Exterior Electrical Field on the Adsorbing Capacity of a Semiconductor) 5p. (text in German).
Order from T. I. B. $1.40

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 118, no. 5, p. 980-982.
Other translations are available in English from OTS or SLA $1.10 as 62-16711; from ATS $5.75 as ATS-94L28R; and from CB $5.00.

DESCRIPTORS: *Semiconductors, *Adsorption, Electric fields.

Baum, F. A., Stanyukovich, K. P., and Shekhter, B. I.
PHYSICS OF AN EXPLOSION: CHAPS. V-IX. [1962] [206]p. 63 refs. AERDL T-1488 (e-i).
Order from OTS or SLA $14.00 62-32430-2

Partial trans. of mono. [Fizika Vzryuva, Moscow, 1959, 800p.].

DESCRIPTORS: Physics, *Explosions, Gases, Dynamics, *Shock waves, Theory, *Detonation waves, Excitation, Propagation, Detonation, Equations, Mass energy relation.

Contents:
Elements of gas dynamics
Elementary theory of shock waves
Theory of detonation waves
Excitation and propagation of detonations
Initial parameters of a shock wave at an interface.

Baum, F. A., Stanyukovich, K. P., and Shekhter, B. I.
PHYSICS OF AN EXPLOSION: PREFACE AND CHAPS. I-IV. [1962] [208]p. 29 refs. AERDL T-1488 (a-d).
Order from OTS or SLA $14.00 62-32430-1

Partial trans. of mono. [Fizika Vzryuva, Moscow, 1959, 800p.].

DESCRIPTORS: Physics, *Explosions, *Explosives, Sensitivity, Thermochemistry, Energy, Munitions, Shock waves, Propagation, Heat of reaction, Explosive gases, Vapors, *Detonation waves.

Contents:
Preface
General characteristics of explosives
Sensitivity of explosives to external influences
Thermochemistry of explosives
Reactions of explosive breakdown.

Borisov, M. D., Zykov, V. G. and others.
PRODUCTION OF PLASMA BY RADIAL COMPRESSION AND MEASUREMENT OF SOME OF ITS PARAMETERS. [1961] [18]p. 2 refs.
Order from OTS or SLA $1.60 AEC-tr-4705

Trans. of mono. Poluchenie Plazmy Metodom Radial'nogo Szhatiya i Izmerenie Ee Nekotorykh Parametrov, Khar'kov, 1960 [18p.].

DESCRIPTORS: *Plasma physics, Production, Measurement, Ionization, Gas ionization.

It is shown that a highly-ionized plasma can be obtained in the straight portion of the race track. By applying a containing field H_z the plasma is fully detached from the chamber walls. The ion temperature and the density of the plasma were determined by spectral methods. (Author)

Prudnikov, M. M.
HOMOGENEOUS PLASMA TURBULENCE IN A STRONG MAGNETIC FIELD. 5 Feb 62 [10]p. 3 refs.
FTD-TT-61-93; AD-271 862.
Order from OTS or SLA $1.10 62-19282

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroenie, 1961, no. 4, p. 10-13.

DESCRIPTORS: *Magnetohydrodynamics, *Plasma physics, *Plasma oscillations, Magnetic fields, *Turbulence, Electrons, Transport properties, Thermal conductivity, Thermal diffusion, Gas flow, Partial differential equations.

A homogeneous turbulence in a conducting fluid in the presence of a strong magnetic field is considered. At a certain relationship between the magnetic Reynolds number R_m and the criterion D (the ratio of magnetic energy to kinetic) turbulence is described with a good degree of accuracy by a closed system of equations relative to the correlation moments of the second order. A solution is constructed for this system of equations and its asymptotic behavior is investigated. The overwhelming influence of the magnetic viscosity leading to a rapid degeneration of turbulence is revealed. Results are given for the case of an anisotropic conducting plasma. (Author)

Sinel'nikov, K. D., Safronov, B. G. and others.
INVESTIGATION OF MAGNETIC PROPERTIES OF A PLASMA BEHIND THE FRONT OF A STRONG SHOCK WAVE. [1961] [18]p. 4 refs.
Order from OTS or SLA $1.60 AEC-tr-4729

Original figs. poor quality

Trans. of mono. Izuchenie Magnitnykh Svoistv Plazmy za Frontom Sil'noi Udarnoi Volny, Khar'kov, 1960 [p. 89-105].

DESCRIPTORS: *Plasma physics, *Magnetic properties, *Shock waves, Propagation.

We investigated currents in a plasma behind the front of a strong shock wave (Mach number M = 30 to 70), occurring in propagation of a shock in a magnetic field ($\simeq$ 400 oersted). The nature of such currents is discussed for the case of homogeneous and inhomogeneous magnetic field. The dependence of the currents on the magnetic field and on the distance to the source of the shock wave in a homogeneous magnetic field is obtained. The applicability of this method for the determination of the conductivity and temperature behind the front of a strong shock wave (M > 20) is discussed. Magnetic signals have been detected from the plasma behind the shock wave, the nature of which is not fully clear. (Author)

Volkov, Ya. F., Pavlov, Yu. S. and others.
PLASMA IN ALTERNATING MAGNETIC FIELD. [1961] [12]p. 4 refs.
Order from OTS or SLA $1.60 AEC-tr-4706

#Original figs. poor quality

Trans. of mono. Plazma v Peremennom Magnitnom Pole, Khar'kov, 1960 [p. 255-266].

DESCRIPTORS: *Plasma physics, Plasma oscillations, *Magnetic fields.

A procedure and experimental results are described of an investigation of an electrodeless discharge in an alternating magnetic with mirror topography. Super high speed photographs are shown for the discharge in hydrogen and in argon, along with oscillograms of the magnetic field and of the current on flat probes and of the blocking of the microwave signal. The natural oscillations of a plasma pinch were observed. The dependence of the frequency of these oscillations on the magnitude of the magnetic field and the mass of the ions was investigated. (Author)

Yashin, V. I.
INVESTIGATION OF STABILITY OF CYLINDRICAL PLASMA PINCH. [1961] [13]p. 5 refs.
Order from OTS or SLA $1.60 AEC-tr-4735

Trans. of mono. Issledovanie Ustoichivosti Tsilindricheskogo Plazmennogo Shnura, Khar'kov, 1960.

DESCRIPTORS: *Plasma physics, Plasma oscillation, *Magnetic pinch, Stability.

A criterion is obtained for the stability of an analogous plasma pinch in the approximation of Chew, Goldberger, and Low (Proc. Roy. Soc. 236: 112, 1956). This approximation differs from the magnetohydrodynamic one in that there is the equations that describe the plasma a pressure tensor $P_{ik} = P_\perp (\delta_{ik} - h_i h_k) + P_{11} h_i h_k$, and the adiabiticity equation is replaced by two equations for the adiabatic invariants. Here h is a unit vector along the magnetic field H, while P_{11} and $P_\perp$ are the components of the pressure tensor respectively parallel and perpendicular to the magnetic field.

Thermodynamics

Antuf'ev, V. M.
COMPARATIVE INVESTIGATIONS ON HEAT TRANSFER AND PRESSURE DROP OF FINNED SURFACES. [1962] [14]p. 6 refs. [DSIR] NLL M. 3429.
Order from OTS or SLA $1.60 62-24841

Trans. of Energomashinostroenie (USSR) 1961, v. 7, no. 2, p. 12-16.

DESCRIPTORS: *Heat transfer, Pipes, Surfaces, Pressure, Fins, *Heat exchangers.

Circular tubes with annular wire fins give the poorest results in all respects and cannot be recommended for the development of new types of heat exchanger constructions. Shape of parent tube and fin have no substantial effect on the heat exchange process. Dimensional and weight characteristics are determined by geometrical dimensions of the fins and by the through

sections and any of the surfaces enumerated above can be reduced to comparable indices. The type of surface to be used should therefore be established according to production technology and operational reliability of the heat exchanger. For the development of new heat exchangers with finned surfaces, the use is recommended of tubes with seamless helical fins, as made by the Central Research Institute of Technology and Machinery. Manufacture of these tubes is being mechanized. (Author)

Kuznetsov, F. A., Belii, V. I. and others.
THERMODYNAMIC PROPERTIES OF CERIUM OXIDE. [1962] 10p. 14 refs.
Order from OTS or SLA $1.10 62-14349

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1961, v. 139, no. 6, p. 1405-1408.

DESCRIPTORS: *Cerium compounds, Oxides, *Thermodynamics.

Mirzoeva, L. M.
DETERMINATION OF SOLID PHASE CONCENTRATION IN A TWO-PHASE MEDIUM IN UPWARD MOTION IN A VERTICAL TUBE. Oct 61, 5p. 4 refs.
Order from ICE in v. 1, no. 1, $15.00/year

Trans. of Akad[emiya] Nauk Azerbaidzhan[skoi] SSR [Baku]. Izvest[iya] 1957, no. 9, p. 11-19.
Another trans. is available from ATS $11.00 as ATS-38N50R [1962] 8p.

DESCRIPTORS: *Phase studies, Solids, Equations of state, Heat transfer.

Rips, S. M.
A THERMODYNAMIC INVESTIGATION OF THE PROCESS OF GASIFICATION OF LIQUID OXYGEN (Termodinamicheskoe Issledovanie Protsessa Gazifikatsii Zhidkogo Kisloroda). [1962] [17]p. (foreign text included) 1 ref.
Order from OTS or SLA $1.60 62-14002

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1960 [v. 3] no. 2, p. 41-45.

DESCRIPTORS: Thermodynamics, *Liquefied gases, *Oxygen, Equations of state.

By solving the problem for the maximum, it is possible to determine a permissible value of the "specific charge" γ_b of liquid oxygen, required to prevent reverse condensation, and to establish the physical significance of the accompanying "crisis". (Author)

Wave Propagation

A METHOD FOR SEPARATING PULSES OF LONGER DURATION FROM THE PULSE MIXTURE COMPRISED OF PULSES OF VARIOUS DURATION (Verfahren zur Abtrennung von Impulsen Längerer dauer aus Einem Impulse Verschiedener dauer Enthaltenden Impulsgemisch) tr. by A. Pingell. 1951 [11]p. N R L Trans. no. 350.
Order from OTS or SLA $1.60 62-13294

Trans. of Swiss patent 214515, cl. 120 g, by Telefunken Gesellschaft für Drahtlose Telegraphie, M. B. H, Germany, appl. 11 July 38, announced 16 July 41.

DESCRIPTORS: *Video signals, Signals, Transmission, *Pulse modulation, Separation, Distortion.

Gurzadyan, G. A.
INTERFERENZERSCHEINUNGEN VON RADIOWELLEN DURCH EINWIRKUNG DER MONDIONOSPHARE. (Radio Interference Fenomenons of Radio Waves Caused by the Lunar Ionosphere). 7p. (text in German).
Order from T. I. B. $1.55

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 118, no. 5, p. 884-887.
Other translations are available in English from LC or SLA mi$1.80, ph$1.80 as 59-20193 and 59-10917; also from SLA as R-4924.

DESCRIPTORS: *Radio interference, Radio waves, *Ionosphere, Solar eclipse.

Kharkevich, A. A.
DISTINGUISHING CONTINUOUS SIGNALS. [1961] [2]p. [DSIR LLU] M. 3258.
Order from OTS or SLA $1.10 61-27613

Trans. of #Radiotekhnika (USSR) 1960, v. 15, no. 10, p. 11-13.

DESCRIPTORS: *Radio signals, Signals, Transmission, Mathematical analysis.

The question of representing a signal (given in the form of a continuous function at a finite interval) by one or several numbers and the optimum selection of these numbers (from the point of view of distinguishing signals of a given set), is considered. (Author)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS. 16 Aug 62 [75]p. JPRS: 14866.
Order from OTS or SLA $7.60 62-32460

Consists of abstracts from East European scientific journals published in Czechoslovakia, East Germany, Hungary, Poland, and Yugoslavia.

DESCRIPTORS: Abstracting, Europe, Periodicals, *Scientific reports, *Industrial research, Bibliography.

EVENTS IN THE HUNGARIAN ACADEMY OF SCIENCES. 3 May 61 [7]p. JPRS: 4582.
Order from OTS or SLA $1.10 62-19188

Trans. of Magyar Tudomany (Hungary) 1960, v. 5[67] no. 11, p. 688-691 [sic].

DESCRIPTORS: Scientific research, Conferences, Scientific personnel, *Scientific organizations, *Hungary.

NORWEGIAN PATENTS IN ENGLISH TRANSLATION, NOS. 100093-100101, 100104-100105, 100107, 100110-100113, 100116-100117. [Aug 62] 19 nos.
Order from AC

DESCRIPTORS: *Patents, *Inventions, *Norway, Aluminum, Ovens, Ethylenes, Polymers, Internal combustion engines, Impurities, Nickel compounds, Carbonyl radicals, Cutting tools, Cobalt, Chromium, Ores, Primary batteries, Furniture, Magnesium, Heating elements, Tools, Machine tools, Clothing bags, Containers, Cotton mats, Telephone communication systems, Electrical equipment, Heating, Pipes, Rings, Welding.

Contents:
100093 Method for charging aluminum kilns, $1.24; 100094 Method for manufacture of high polymerized ethylene in granulated form, $0.77; 100095 Method to diminish wear and tear in combustion engines, $1.32; 100096 Same as 100095, $1.49; 100097 Method for removal of impurities, $1.69; 100098 Method for manufacture of nickel carbonyl, $1.54; 100099 Scraping device, $2.09; 100100 Method at selective reduction of cobalt from chrome-ore melts, $1.15; 100101 Flat galvanic primary cell and method for manufacture of same, $7.70; 100104 Device in combined sitting and resting furniture piece, $2.09; 100105 Device for heating of retorts for continuous manufacture of magnesium, $1.76; 100107 Device for lateral adjustment of tools coupled to a tractor, $1.54; 100110 Child's seat for fastening on luggage carrier, $1.54; 100111 Method for manufacture of fiber mat, $1.04; 100112 Telecommunication system, $3.85; 100113 Electric rapid hot plate, $3.85; 100115 Machine for transforming of pipes, $3.63; 100116 Welding preventing material, which at hot pressing of metals prevents a welding-together, $2.31; 100117 Method at manufacture of tightening rings for pipe connection, $2.48.

NORWEGIAN PATENTS IN ENGLISH TRANSLATIONS, NOS. 100151-100153, 100155, 100157-100160, 100162-100169, 100171, 100174-100176, 100180. 17 Sep 62, 21 nos.
Order from AC

DESCRIPTORS: *Patents, *Inventions, *Norway, Bombs, Armor, Ignition, Earth augers, Liquids, Heating, Fractionation, Ovens, Deuterium, Ice, Ice cream, Machines, Magnetic fields, Anodes (Electrolytic cells), Threads, Elasticity, Coffee, Grinders, Heaters, Sound reproduction systems, Disks, Safety valves, Meat, Rotary pumps, Vehicles wheels.

Contents:
100151 Light bomb, $1.55; 100152 Armoring ignition, $2.75; 100153 Apparatus for turning of bales, $2.70; 100155 Converting device for digging machine drawers, $2.50; 100157 Method and apparatus for instantaneous heating of a liquid followed by a uniform heating of each part of the liquid, $25.00; 100158 Electric oven with great capacity, particularly reduction ovens with several parallel electrode rows, $3.50; 100159 Apparatus for distillation of liquids, $1.90; 100160 Method for extraction of heavy hydrogen, $1.30; 100162 Method and device for rapid manufacture of hollow bar ice, $12.70; 100163 Continuous ice cream machine, $11.00; 100164 Method and device for measuring even very weak magnetic fields, preferably earth magnetic fields, etc., $8.80; 100165 Device for suspension of the anode covering for self-burning anodes in cells for electrolytic manufacture of aluminum, $6.15; 100166 Device for treatment of yarn for rendering same elastic, $2.60; 100167 Engine driven coffee grinder, $1.95; 100168 Apparatus for application of liquid $3.95; 100169 Heating oven for room, $4.10; 100171 Device for pressing and cutting out phonographic records of a plastic band, $2.20; 100174 Safety valve, $0.95; 100175 Method and device for injection of liquid into meat products, $6.95; 100176 Rotatable pump or engine, $2.65; 100180 Pneumatic wheel tire for vehicle, $4.95.

RESEARCHES CARRIED OUT AT THE INSTITUTIONS OF THE DEPARTMENT OF TECHNICAL SCIENCES, ACADEMY OF SCIENCES U.S.S.R. IN 1943. [1962] 4p. 4 refs.
Order from OTS or SLA $1.10 62-10873

[Condensed] trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya, 1944, no. 6, p. 419-430.

DESCRIPTORS: *Scientific research Petroleum, Sources, Boundary layer, Moisture, Numerical analysis, Metals, Specifications, Lubrication, Oils, Mechanical properties.

RESEARCHES CARRIED OUT AT THE INSTITUTIONS OF THE DEPARTMENT OF TECHNICAL SCIENCES, ACADEMY OF SCIENCES U.S.S.R. IN 1943. [1962] 5p. 1 ref.
Order from OTS or SLA $1.10 62-10874

[Condensed] trans. of Akad[emiya Nauk SSSR]. [Otdelenie] Tekh[nicheskikh Nauk]. Izv[estiya] 1944, no. 7/8, p. 530-539.

DESCRIPTORS: *Scientific research, Power plants, Steam, Temperature, Pressure, Coal gas, Production, Internal combustion engines, Fuels, Heat exchangers, Petroleum, Sources, Geology, Moisture, Oils, Asphalt, Deposits, Geochemistry, Bitumens, Geophysical prospecting, Aluminum compounds, Silicates, Catalysis, Hydrocarbons, Phenols, Lubricants, Coal, Shales, Peat, Coke, Industry.

SOVIET SCIENTIFIC OBJECTIVES AS REFLECTED IN PUBLISHED STATEMENTS. Rept. no. 1, 31 Aug 61 [32]p. 53 refs. AID rept. 61-111; AD-263 662.
Order from OTS or SLA $3.60 61-28659

DESCRIPTORS: *Scientific research, Space flight, Spaceships, Satellites, Satellite vehicles, Aircraft, Electronics, Radiological physics, Plasma physics, Physics, Nuclear physics, Metallurgy, Astrophysics, Geophysics, Chemistry, Conferences.

This report contains 42 abstracts dealing with the following topics: (1) space vehicles and aircraft, (2) electronics and radiophysics, (3) theoretical physics and plasma effects, (4) applied nuclear physics, (5) technology of metals, (6) astrophysics and geophysics, (7)Chemistry, and (8) related sciences and information Supplement summarizes the discussions of the First

All-Union Conference of Scientific Workers convened at the Kremlin on 12-16 June 1961.

USSR ACADEMY OF SCIENCES MEETS; NEW HORIZONS OF SCIENCE. 9 Aug 62 [10]p. JPRS: 14783.
Order from OTS or SLA $1.10 62-32378

Trans. from Pravda, Moscow (USSR) 1962, no. 182, p. 2.

DESCRIPTORS: *Scientific personnel, Students, *Education, Agriculture, Industry, Economics, *Science.

Jassem, W. and Suwalski, J.
ACOUSTIC ANALYSIS OF POLISH SIBILANT CONSONANTS. [1960] 8p. 22 refs. MDFJ-104.
Order from OTS $10.50 62-11531

Trans. of Przeglad Telekom[unikacyjny] (Poland) 1957 [v. 30] no. 1, p. 5-8.

DESCRIPTORS: *Language, Poland, *Speech, *Speech transmission, Sound, *Acoustics, Oscillograms.

From the acoustical viewpoint, the sound of each letter in the Polish language can be classified on the basis of a three-dimensional analysis by taking into consideration: (1) the kind of path; (2) the relative length of the duration of the stationary and non-stationary paths; and (3) the formant range. The spectra of the consonants are either continuous bands or continuous. The maxima of the noise levels which

describe the sounds also define the frequency of the upper bound of the discrimination passband for Polish speech. (Author)

Richter, G. I.
PROBLEMS IN THE CLASSIFICATION OF RUSSIAN HOMONYMS. Foreign Developments in Machine Translation and Information Processing no. 144, 5 Oct 61 [13]p. 18 refs. JPRS: 8994.
Order from OTS or SLA $1.60 61-28866

Trans. of Nauchnye Doklady Vysshei Shkoly. [Filologicheskie Nauki] (USSR) 1961, no. 1, p. 24-31.

DESCRIPTORS: *Language, Speech, Sound, Classification, Vocabulary, Machine translation.

Zwicky, Fritz.
MORPHOLOGY IN NATIONAL DEFENSE. Lecture no. 4 of Morphological Investigation. [1962] [38]p.
Order from SLA $3.60 62-16043

Trans. of mono. Morphologische Forschung, Zurich, 1959, p. 84-106.

DESCRIPTORS: *Scientific research, *Theory, Morphology, *National defense, Switzerland.

See also 62-16042

Zwicky, Fritz
MORPHOLOGY IN SCIENCE. Lecture no. 2 of Morphological Investigation. [1962] 37p.
Order from SLA $3.60 62-16041

Trans. of mono. Morphologische Forschung, Zurich, 1959, p. 38-61.

DESCRIPTORS: *Scientific research, *Theory, Morphology, Analysis, Data. Science, Switzerland

Zwicky, Fritz.
MORPHOLOGY IN TECHNOLOGY. Lecture no. 3 of Morphological Investigation. [1962] [37]p.
Order from SLA $3.60 62-16042

Trans. of mono. Morphologische Forschung, Zurich, 1959, p. 62-83.

DESCRIPTORS: *Scientific research, Theory, Morphology, Jet engines, Jet engine fuels, Nuclear energy, Switzerland

See also 62-16041

SOCIAL SCIENCES

Loeper, M.
TWO TOXINS IN THEIR RELATION TO LIFE INSURANCE. [1962] 12p.
Order from K-H $15.00 K-H 10085-a

Trans. of le Progres Médical (France) 1959, v. 21, 11 Oct, p. 380-384.

DESCRIPTORS: *Poisons, *Health insurance.

Gastfer, M. P.
BIBLIOGRAPHY AS AN AID TO INDUSTRIAL PRODUCTION (Bibliografiya v Pomoshch' Promyshlennomu Proizvodstvu). [1962] [16]p. [DSIR] NLL M. 4799.
Order from OTS or SLA $1.60 62-25581

Unedited trans. of Sovetskaya Bibliografiya (USSR) 1959, no. 6(58) p. 10-21.

DESCRIPTORS: *Documentation, Libraries, *Bibliography, Effectiveness, *Industrial research, *Industrial production.

Petrov, G.
SCIENCE OPERATORS AND THEIR PROMOTERS. 11 June 62, 3p. AID Rept. 62-78.
Order from OTS or SLA $1.10 62-25772

Abstract trans. from Pravda, Moscow, 1962, 23 May, p. 4.

DESCRIPTORS: *Scientific reports, Quality control, Scientific personnel, Personnel, *Scientific intelligence, Education.

Petrov accuses the Ukrainian Ministry of Higher Education of scientific dishonesty, favoritism, and ignorance. Several recent publications by institutions under the control of the Ministry are criticized very severely.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-SOV/5877
Frank-Kamenetskiy, David Al'bertovich
PLASMA, THE FOURTH STATE OF MATTER (Plasma - chetvertoye sostoyaniye veshchestva) Moscow, Gosatomizdat, 1961. 131p. Errata slip inserted. 12,000 copies printed.

BR-SOV/5925
Kurov, Viktor Dmitryevich, and others
PRINCIPLES OF DESIGNING SOLID-FUEL ROCKET MISSILES (Osnovy proyektirovaniya porokhovykh raketnykh snaryadov) Moscow, Oborongiz, 1961. 293p. Errata slip inserted. 12,000 copies printed.

BR-SOV/5958
Shtoda, Andrey Vladimirovich, and others
CONSTRUCTION OF AIRCRAFT GAS-TURBINE ENGINES (Konstruktsiya aviatsionnykh gazoturbinnykh dvigateley) Moscow, Voyenizdat M-va obor. SSSR, 1961. 411p. Errata slip inserted. No. of copies printed not given.

BR-SOV/5965
Nigmatulin, Iskander N.,
OPERATING PROCESSES IN TURBOPISTON ENGINES (Rabochiye protsessy v turboporshnevykh dvigatelyakh) Moscow, Mashgiz, 1962. 314p. Errata slip inserted. 4000 copies printed.

BR-SOV/5969
Mel'nikov, Aleksandr Petrovich
HIGH-SPEED AERODYNAMICS; PRINCIPLES OF AIRCRAFT GAS DYNAMICS (Aerodinamika bol'shikh skorostey; osnovy gazodinamiki letatel'nykh apparatov) Moscow, Voyennoye izd-vo M-va obor. SSSR, 1961. 423p. 16,000 copies printed.

BR-SOV/5971
Dorofeyev, Vitaliy Mitrofanovich, and others
THE TESTING OF AIR-BREATHING JET ENGINES (Ispytaniya vozdushno-reaktivnykh dvigateley) Moscow, Oborongiz, 1961. 220p. Errata slip inserted. 10,000 copies printed.

BR-SOV/5976
Shklennik, Ya. I., and others
INVESTMENT CASTING (Lit'ye po vyplavlyayemym modelyam) Leningrad, Mashgiz, 1961. 455p. (Series: Inzhenernyye monografii po liteynomu proizvodstvu) Errata slip inserted. 8000 copies printed.

BR-SOV/5979
Denisov, Viktor Grigor'yevich, and others
PILOT AND PLANE (Letchik i samolet) Moscow, Oborongiz, 1962. 200p. Errata slip inserted. 14,000 copies printed.

BR-SOV/5989
Alekseyenko, Mikhail Fedorovich
STRUCTURE AND PROPERTIES OF HEAT-RESISTANT STRUCTURAL AND STAINLESS STEELS (Struktura i svoystva teplostoykikh konstruktsionnykh i nerzhaveyushchikh staley) Moscow, Oborongiz, 1962. 215p. 4550 copies printed.

BR-SOV/5991
Rode, Tat'yana Vladimirovna
OXYGEN COMPOUNDS OF CHROMIUM AND CHROMIC CATALYSTS (Kislorodnyye soyedineniya khroma i khroma i khromovyye katalizatory) Mascow, Izd-vo AN SSSR, 1962. 278p. Errata slip inserted. 3000 copies printed.

BR-SOV/5992
Koshlyakov, Nikolay Sergeyevich, and others
DIFFERENTIAL EQUATIONS IN MATHEMATICAL PHYSICS (Differential'nyye uravneniya matematicheskoy fiziki) Moscow, Fizmatgiz, 1962. 767p. 25,000 copies printed.

BR-CZECH/5996
Budejicky, and others
RADIO ASTRONOMY (Radioastronomie) Prague, Nakl. CAV, 1962. 396p. 2000 copies printed.

BR-SOV/5997
Vinarov, Saveliy Mikhaylovich
AVIATION METAL SCIENCE TEXTBOOK (Aviatsionnoye metallovedeniye; uchebnoye posobiye) Moscow, Oborongiz, 1962. 219p. 8400 copies printed.

BR-SOV/5999
Naumov, Vasiliy Grigor'yevich
GAS-SHIELDED ARC WELDING (Svarka v srede zashchitnykh gazov) Moscow, Gosstroyizdat, 1961. 227p. (Seriya posobiy po povysheniyu masterstva stroiteley) 8000 copies printed.

BR-SOV/6000
Saf'yan, Matvey Matveyevich
HOT ROLLING OF PLATES AND SHEETS IN CONTINUOUS AND SEMICONTINUOUS MILLS (Goryachaya prokatka listov na nepreryvnykh i polunepreryvnykh stanakh) 2d ed., rev. and enl. Moscow, Metallurgizdat, 1962. 380p. 3700 copies printed. Errata slip inserted.

BR-SOV/6001
Sokolov, Vasiliy Stepanovich
DETECTION OF FLAWS IN MATERIALS (Defektoskopiya materialov) 2d ed., rev. Moscow, Gosenergoizdat, 1961. 326p. 8000 copies printed.

BR-SOV/6002
Gol'denblat, I. I. and others
DESIGNING STRUCTURES FOR EARTHQUAKE AND DYNAMIC EFFECTS (Rashchet konstruktsiy na deystviye seysmicheskikh i impul'sivnykh sil) Moscow, Gosstroyizdat, 1961. 319p. 5000 copies printed.

BR-SOV/6003
Sienkiewicz, Jozef
AIRCRAFT AUTOMATIC CONTROL SYSTEMS (Automaty w samolocie) Warsaw, Wydawn. Ministerstwa Obrony Narodowej, 1961. 174p. (Series: Biblioteka popularna wiedzy technicznej. Seria "Sowy") Errata slip inserted. 3000 copies printed.

BR-SOV/6007
Leybenzon, Semen Abramovich, and others
ELECTROSLAG MELTING OF STEEL (Proizvodstvo stali metodom elektroshlakovogo Pereplava) Moscow, Metallurgizdat, 1962. 237p. Errata slip inserted. 3200 copies printed.

BR-SOV/6011
Lavrent'yev, Mikhail Alekseyevich
VARIATIONAL METHOD IN BOUNDARY-VALUE PROBLEMS FOR SYSTEMS OF EQUATIONS OF THE ELLIPTIC TYPE (Variatsionnyy metod v krayevykh zadachakh dlya sistem uravneniy ellipticheskogo tipa) Moscow, Izd-vo AN SSSR, 1962. 135p. 4000 copies printed.

BR-SOV/6014
Chernykh, Klimentiy Fedos'yevich
LINEAR THEORY OF SHELLS PT. 1: GENERAL THEORY (Lineynaya teoriya obolochek. Ch. 1: Obshchaya teoriya) Leningrad, Izd-vo Leningradskogo Universiteta, 1962. 273p. Errata slip inserted. 4000 copies printed.

BR-SOV/6015
Gutovskiy, Mikhail Vasil'yevich, and Vladislav Fedorovich Korshunov
MANUAL FOR THE CALCULATION AND DESIGN OF COMPONENTS AND SYSTEMS OF AIRCRAFT ELECTRIC EQUIPMENT. V. 2: POWER ELECTROMAGNETS AND CONTACTORS (Posobiye po proyektirovaniyu i raschetu elementov i sistem aviatsionnogo elektrooborudovaniya. vyp. 2: Silovyye elektromagnity i kontaktory) Moscow, Oborongiz, 1962. 164p. Errata slip inserted. 3400 copies printed.

BR-SOV/6018
Kuz'mim, Sergey Il'ich
VACUUM SMELTING AND CASTING OF HEAT-RESISTANT ALLOYS AND STEEL (Plavka i lit ye zharoprochnykh splavov i staley v vakuume) Moscow, Mashgiz, 1962. Errata slip inserted. 6500 copies printed.

BR-SOV/6019
Danilov, Fedor Aleksandrovich and others.
HOT ROLLING OF TUBES (Goryachaya prokatka trub) 2d ed., rev. and enl. Moscow, Metallurgizdat, 1962. 591p. 3400 copies printed.

BR-SOV/6020
Silin, Lev Leonidovich and others.
ULTRASONIC WELDING; JOINING METALS IN A SOLID STATE AND IMPROVEMENT OF THE WELD QUALITY (Ul'trazvukovaya svarka; soyedineniye metallov v tverdom sostoyanii i uluchsheniye kachestva svarnykh shvov) Moscow, Mashgiz, 1962. 251p. 11,000 copies printed.

BR-SOV/6021
Goltsman, M. I., and V. V. Frolov
STRUCTURAL CHARACTERISTICS OF THE ATMOSPHERE ABOVE THE ARCTIC; RESULTS OF OPERATIONS BY THE AIRBORNE METEROLOGICAL OBSERVATORY (Strukturnyye kharakteristiki atmosfery nad arktikoy; resul'taty rabot letayushchey meteorologicheskoy observatorii) Leningrad, Morskoy transport, 1960. 147p. (Series: Trudy Arkticheskogo i antarkticheskogo nauchno-issledovatelskogo instituta, t. 238) Errata slip inserted. 600 copies printed.

TRANSLATIONS IN PROCESS

THE ACADEMY OF MEDICAL SCIENCES USSR AND ITS ESTABLISHMENTS.
Mono. Akademiya Meditsinskikh Nauk SSSR i Ee Uchrezhdeniya, n. p., 1962, 143p.

SOVIET CONFERENCE ON GRAVITATION (NO. 11): PAPERS AND PROGRAM. 27-30 JUNE 61.
Mono. Sovetskaya Gravitationnaya Konferentsiya (no. 1) 27-30 Iyunya 1961 Goda). Tezisy i Programma, Moscow, 1961, p. 3-207.

THE USE OF ZIRCONIUM AND ITS COMPOUNDS IN INDUSTRY.
Mono. Premenenie Tsirkoniya i Ego Soedinenii v Promyshlennosti, n. p., 1962, 100p.

Bovard, P. and Grauby, A.
A STUDY OF THE APTITUDE OF SOILS UNDER NATURAL CONDITIONS TO RETAIN RADIOSTRONTIUM (Etude de la Vocation des Sols en Place a la Retention du Radiostrontium).
Commissariat a l Energie Atomique. Report (France) no. 1751, 1960, 26p.

Bross, H.
THE INFLUENCE OF DEFECTS ON THE LATTICE THERMAL CONDUCTIVITY AT LOW TEMPERATURES.
Physica Status Solidi (Germany) 1962, v. 2, no. 5, p. 418-516.

Fedorov, G. B. and Smirnov, E. A.
THERMODYNAMIC PROPERTIES OF ZIRCONIUM AND ITS ALLOYS WITH TIN (Termodinamicheskie Svoistva Tsirkoniya i Ego Splavov s Olovom).
Thermodynamics of Nuclear Materials, Symposium, Vienna, 21-25 May 62, Report SM-26/57, 26p.

Glazov, N. V.
THE ADAPTATION OF RADIOACTIVE ISOTOPES TO ENGINEER RESEARCH.
Mono. Primenenie Radioaktivnykh Izotopov v Inzhenernykh Izyskaniyakh, Moscow. 1962, 68p.

Ivanov, A. E.
PATHOLOGICAL ANATOMIC CHANGES IN LUNGS IN RADIATION INJURIES.
Mono. Patalogoanatomicheskie Izmeneniya Legkikh pri Luchevoi Bolezni, Moscow. 1961.

Klyukin, I. I.
CONTROL OF NOISE AND SONIC VIBRATION IN SHIPS.
Mono. Bor'ba s Shumom i Zvukovoi Vibratsii na Sudakh, n. p., 1961, 355p.

Koppel, I. and Holtkamp, H.
THEORY ON THE PRODUCTION OF THORIUM SALTS (Beitrage zur Theorie der Fakbrikation von Thoriumsalzen.
Zeitschrift für Anorganische Chemie (East Germany) 1910, v. 67, p. 266-301.

Ladyzhenskaya, O. A.
MATHEMATICAL PROBLEMS OF THE DYNAMICS OF VISCOUS INCOMPRESSABLE FLUID.
Mono. Matematicheskie Voprosy Dinamiki Vyazkoi Neszhimaemoi Zhidkosti, Moscow, 1961, 263p.
To be published by Israel Program for Scientific Translation, 14 Shammai St., P. O. Box 7145, Jerusalem, Israel, after Jan 64.

Leimdorfer, M.
GAMMA RADIATION OF NEUTRON-INDUCED GROUND ACTIVITY TAKING INTO ACOCOUNT THE BOMBARDMENT PATTERN, DETONATION HEIGHT AND EARTH ANALYSIS.
Mono. Gammastralning fran Neutroinducerad Markaktivitet vid Given Bombsammansattning, Explosionshojd och Markanays (Report FOA 4 C 4135-454, Mar 62).

Lyashenko, V. S. and Nevzorov, B. A.
MECHANISM OF CARBON TRANSFER IN LIQUID SODIUM (Mekhanizm Prenosa Uglerodav Zhidhom Natrii).
Corrosion of Reactor Materials, Conference, Salzburg, 4-9 June 62, Report CN-13/41, 36p.

Lyush, D. V. and Nikolaev, B. N.
DOSIMETRIC CONTROL ON ATOMIC SHIPS.
Mono. Dozimetricheskii Kontrol'na Atomnykh Sudakh, n. p., 1962, 132p.

Pal, L. and Memet, G.
FLUCTUATION OF THE NEUTRON YIELD IN PULSED FAST REACTORS.
Unidentified Russian [?] report pub. 1962.

Pal, L.
STATISTICAL THEORY OF THE CHAIN REACTION IN NUCLEAR REACTORS, I-III.
Unidentified report pub. Budapest, 1961.

Pines, B. Ya.
SINTERING, CREEP, RELAXATION, RECRYSTALLIZATION AND OTHER PHENOMENA CONNECTED WITH SELF-DIFFUSION IN CRYSTALLINE BODIES.
Uspekhi Fizicheskikh Nauk (USSR) 1954, v. 52, p. 501-559.

Suprunenko, D. A.
SOLUBLE AND NILPOTENT LINEAR GROUPS.
Mono. Razreshimye i Nil'potentnye Linenye Gruppy Minsk, 1958, 93p.
To be published by American Mathematical Society, 190 Hope St., Providence 6, R. I. in AMS Selected Translation Series 1963.

PERIODICALS TRANSLATED COVER-TO-COVER

For basic list of Periodicals Translated Cover-to-Cover see Technical Translations Volume 8, Number 1.

This basic list is kept up-to-date by giving only changes in the subsequent issues of Technical Translations.

No changes are necessary for this issue.